

Permanent Program Finding

Results of Review

Permanent Program Significant Revision Application No. 9 to Permit No. 3 and Permit
Application No. 438
ICG Illinois, LLC
Viper Mine

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The Illinois Department of Natural Resources, Office of Mines and Minerals, Land Reclamation Division (Department), the Regulatory Authority in Illinois under the Surface Mining Control and Reclamation Act of 1977 (Federal Act), 30 U.S.C. Section 1201 *et seq.*, has reviewed Significant Revision Application No. 9 to Permit No. 3 and Permit Application No. 438 in accordance with the Surface Coal Mining Land Conservation and Reclamation Act (State Act), 225 ILCS 720, and the Department's regulations at 62 Ill. Adm. Code 1700-1850.

The applicant has submitted in writing the modifications required by the Department's letter dated June 9, 2016 (Appendix A). These modifications have been reviewed and approved by the Department. Pursuant to 62 Ill. Adm. Code 1773.19, the Department is approving the application as modified. The Department's decision is based upon a review of the record as a whole, and is supported and documented by the record. The findings and reasons for the Department's decision are set forth below. The period for administrative review under 62 Ill. Adm. Code 1847.3 commences as of the date of this decision.

I. SUMMARY OF SIGNIFICANT REVISION APPLICATION NO. 9 TO PERMIT NO. 3 AND PERMIT APPLICATION NO. 438

Surface coal mining and reclamation operations Significant Revision Application No. 9 to Permit No. 3 and Permit Application No. 438, proposes a new permit on 282 acres and significant revisions to the operations permitted under Permit No. 3.

All of the 282 acres proposed for the new Permit No. 438 area are to be used as support facilities for existing permitted areas. Activities proposed on the 282 acres include a coarse refuse impounding structure disposal facility and associated sediment ponds and soil stockpiles. In addition, the revisions to previously approved Permit No. 3 include utilization of the north side of the current refuse pile as part of the proposed refuse disposal facility, access to the new permit area, a slurry line and return water line, and post-mining land use changes.

The following is a summary of the pre-mining land uses and the proposed post-mining land uses. NOTE: Land uses are categorized under the definitions found in 62 Ill. Adm. Code 1701.5. Land use classifications under other regulatory programs and agencies may be different.

<u>Land Use</u>	<u>Pre-Mining Acres</u>	<u>Post-Mining Acres</u>
Cropland	275	63.1
Water Resources	0	0
Pastureland	0	0
Residential	2	0
Industrial/Commercial	0	0
Fish & Wildlife Habitat	5	218.9
Forestry	0	0
Undeveloped Land	0	0
Total	282	282

II. SUMMARY OF THE PUBLIC PARTICIPATION PROCESS

The Department finds that the public participation requirements of 62 Ill. Adm. Code 1773.13 and 1773.14 have been met.

The permit application was filed with the Department on January 8, 2104 and was deemed complete on December 10, 2015. The applicant placed a newspaper advertisement of the proposed operation in The Courier, a newspaper of general circulation in the area affected, published in Logan County, once a week for four consecutive weeks, beginning on December 24, 2015. The applicant filed two copies of the permit application with the County Clerk of Logan County, in accordance with 62 Ill. Adm. Code 1773.13(a)(2), on December 22, 2015. Copies of the application were sent to the following State Agencies: Illinois Department of Agriculture (IDOA), and Illinois Environmental Protection Agency (IEPA), and the United States Department of Agriculture, Natural Resources Conservation Service (NRCS), and the United States Fish and Wildlife Service (USFWS) on January 11, 2016, for review and comment. In addition copies were circulated with the appropriate Offices within the Illinois Department of Natural Resources (Department). Written notification of the application was given to those governmental agencies and entities required to receive notice under 62 Ill. Adm. Code 1773.13(a)(3).

State Agency comments on this application have been received by the Department, with the source and date of comments as follows: IDOA (February 2, 2016) and IEPA (February 11, 2016).

Comments on this application were also received from the NRCS dated January 22, 2016, and USFWS dated March 3, 2016, and September 15, 2016. Final concurrence was received from USFWS on February 6, 2017.

The Department received a request for an informal conference and a public hearing. The Department held an informal conference on February 25, 2016 and a public hearing on March 31, 2016. Both events were held at the Elkhart Christian Fellowship Center in Elkhart, Illinois.

All comments received either in writing, at the informal conference or public hearing, have been considered by the Department in reviewing this application. The Department's responses to these comments are set forth in Appendix B.

All comments received on this application have been furnished to the applicant, and have been filed for public inspection at the office of the Logan County Clerk.

III. SUMMARY OF THE DEPARTMENT'S FINDINGS

The Department, upon completing its review of the information set forth in the application, the required modifications submitted, if any, and information otherwise available, and made available to the applicant, and after considering the comments of State Agencies, and all other comments received, makes the following findings:

A. Findings Required by 62 Ill. Adm. Code 1773.15

REVIEW OF VIOLATIONS
(Sections 1773.15(b) and (e))

Section 1773.15(b)(1): Based on a review of all reasonably available information concerning violation notices and ownership or control links involving the applicant, including information obtained pursuant to Sections 1773.22, 1773.23, 1778.13 and 1778.14, the Department has determined that the applicant or a person who owns or controls the applicant is not currently in violation of the State Act, Federal Act or other law or regulation referred to in Section 1773.15(b)(1).

Section 1773.15(e): The Department requested updated compliance information in its fee and bond request letter dated December 15, 2016. Based on the compliance review required by Section 1773.15(b)(1), a review of the OSM Applicant Violator System for outstanding violations, and in light of no new information submitted pursuant to Sections 1778.13(i) and 1778.14(e), the Department reconsidered its decision to approve the application and found that no change in its decision to issue the permit is necessary.

SECTION 1773.15(c)(1) FINDINGS

(Overall Findings)

Section 1773.15(c)(1): The permit application as modified is accurate and complete and all requirements of the Federal and State Acts and the regulatory program have been met.

SECTION 1773.15(c)(2) – (c)(13) FINDINGS

Section 1773.15(c)(2): The applicant has demonstrated that reclamation as required by the Federal and State Acts and the regulatory program can be accomplished under the reclamation plan contained in the permit and significant revision applications, as modified.

Section 1773.15(c)(3)(A): The proposed permit area is not within an area under study or administrative proceedings under a petition, filed pursuant to Section 1764, to have an area designated as unsuitable for surface coal mining operations.

Section 1773.15(c)(3)(B): The proposed permit area is not within an area designated as unsuitable for mining pursuant to Sections 1762 and 1764 or subject to the prohibitions or limitations of Section 1761.11, except as delineated below:

Section 1761.11(a): The proposed permit area does not include any lands within the boundaries of the National Park System, the National Wildlife Refuge System, the National System of Trails, the National Wilderness Preservation System, the Wild and Scenic Rivers System, or National Recreation Areas designated by Act of Congress.

Section 1761.11(b): The proposed permit area is not on any Federal lands within the boundaries of any national forest.

Section 1761.11(c): The proposed surface coal mining and reclamation operations will not adversely affect any publicly owned park or any privately owned or publicly owned places included on the National Register of Historic Places.

Section 1761.11(d): The proposed permit area is within one hundred (100) feet measured horizontally of the outside right-of-way line of public roads in Logan County, described as follows:

The proposed permit area is adjacent to the right-of-way of Township Roads 600 N, 700 N, and 800 E. The proposed activities in the permit area include perimeter ditches, coal refuse and coal combustion waste embankments, soil stockpiles, sediment ponds, existing site entrances, and associated construction activities of a temporary nature. In addition, temporary construction to facilitate the installation of the slurry line and a water line under Township Road 600 N to the disposal facility may be within 100 feet of the right-of-way of Township Road 600 N not more than 2,800 feet west of the intersection of Township Roads 800E and 600 N.

No approvals from the authority with jurisdiction over the roads were required.

The applicant provided proper public notice and opportunity for a public hearing. A hearing was requested and comments were received by the Department which addressed these roads. The comments are addressed in Appendix B and include comment Nos. 15, 24, 31 and 43.

The Department finds the interests of the public and affected landowners will be protected from the proposed mining operations as a result of the measures to be taken by the applicant as described in the mining operations plan concerning these roads.

Section 1761.11(e): The proposed permit area is not within three hundred (300) feet measured horizontally of any occupied dwellings.

Section 1761.11(f): The proposed permit area is not within three hundred (300) feet measured horizontally of any public building, school, church, community or institutional building, or public park from which the applicant will be required to maintain a three hundred (300) foot buffer zone.

Section 1761.11(g): The proposed permit area is not within one hundred (100) feet measured horizontally of a cemetery.

Section 1773.15(c)(4): No coal extraction is proposed by the combined application, therefore this section is not applicable.

Section 1773.15(c)(5): The Department has assessed the probable cumulative impacts of all anticipated coal mining on the hydrologic balance in the cumulative impact area, in accordance with Part 1784 and finds that the operations proposed under the application have been designed to prevent material damage to the hydrologic balance outside the proposed permit area (see Appendix C).

Section 1773.15(c)(6): The applicant has not proposed the use of any existing structures in the permit application requiring compliance with Section 1700.1(d).

Section 1773.15(c)(7): The applicant will submit fees required by these regulations before the permit is issued. The fee required is \$7,050.00 for the term of the permit, which may be paid in annual increments. The Department finds that the applicant has paid all reclamation fees from previous and existing operations as required by 30 CFR 870.

Section 1773.15(c)(8): See Part III – Subpart B.

Section 1773.15(c)(9): The applicant has satisfied the requirements for a long-term, intensive agricultural post-mining land use, in accordance with the requirements of Section 1817.111(d).

Section 1773.15(c)(10): The operation as approved will not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 USC 1531 et seq., see Appendix E).

Section 1773.15(c)(11): The requirements of this section are not applicable as there are no proposed remining operations.

Section 1773.15(c)(12): The effect of the proposed permitting action on properties listed on or eligible for listing on the National Register of Historic Places has been taken into account by the Department.

Section 1773.15(c)(13): The requirements of this section are not applicable as there are no proposed remining operations.

B. Findings Required by 62 Ill. Adm. Code 1785 (Applicable Sections)

PRIME FARMLANDS (Section 1785.17)

A soil survey was submitted by the applicant pursuant to Section 1783.21 that shows prime farmland soils identified on this permit area which have been historically used as cropland. The soil survey prepared by the USDA provides the required soil information.

The prime farmland identified in the permit is exempt from the provisions of Section 1785.17 as provided under Section 1823.11. The Department finds the area is to be actively used for an extended period of time, coal waste disposal is not technologically and economically feasible to store in the underground mine or on non-prime farmland, and will affect a minimal amount of

land. Prime farmland around the fringe of the refuse disposal area which are not planned to be disturbed will retain their original capability. Please see Appendix D.

C. Compliance with 62 Ill. Adm. Code 1773.19

Section 1773.19(a)(1): The Department has based its decision to approve, as modified, the application, based on public participation as provided by Sections 1773.13 and 1773.14, compliance with all applicable provisions of Section 1785, and the processing and complete review of the application.

Section 1773.19(a)(3): The Department is providing written notification of its final permit decision to the following persons and entities:

- A. The applicant, each person who filed comments or objections to the permit application, and each party to the public hearing and informal conference;
- B. The Logan County Board; and,
- C. The Office of Surface Mining.

All materials supporting these findings are a part of the public record and are hereby incorporated by reference.

IV. PERMIT CONDITIONS

- A. The permittee shall conduct surface coal mining and reclamation operations only on those lands specifically designated as the permit area on the maps submitted with the application and authorized for the term of the permit and that are subject to the performance bond or other equivalent guarantee in effect pursuant to 62 Ill. Adm. Code 1800.
- B. The permittee shall conduct all surface coal mining and reclamation operations as described in the approved application, except to the extent that the Department otherwise directs in the permit.
- C. The permittee shall comply with the terms and conditions of the permit, all applicable performance standards of the Federal and State Acts, and the requirements of the regulatory program.
- D. Without advance notice, delay, or a search warrant, upon presentation of appropriate credentials, the permittee shall allow the authorized representatives of the Department and Secretary of the United States Department of the Interior to:
 - 1. Have the right of entry provided for in 62 Ill. Adm. Code 1840.12; and,
 - 2. Be accompanied by private persons for the purpose of conducting an inspection in accordance with 62 Ill. Adm. Code 1840, when the inspection is in response to an alleged violation reported to the Department by the private person.
- E. The permittee shall take all possible steps to minimize any adverse impacts to the environment or public health and safety resulting from noncompliance with any term or condition of this permit, including, but not limited to:
 - 1. Accelerated or additional monitoring necessary to determine the nature and extent of noncompliance and the results of the noncompliance;
 - 2. Immediate implementation of measures necessary to comply; and,
 - 3. Warning, as soon as possible after learning of such noncompliance, any person whose health and safety is in imminent danger due to the noncompliance.
- F. As applicable, the permittee shall comply with 62 Ill. Adm. Code 1700.11(d) for compliance, modification, or abandonment of existing structures.
- G. The permittee shall pay all reclamation fees required by 30 CFR 870 for coal produced under this permit for sale, transfer, or use.
- H. Within thirty (30) days after a cessation order is issued under 62 Ill. Adm. Code 1843.11, for operations conducted under the permit, except where a stay of the cessation order is granted and remains in effect the permittee shall either submit to the Department the

following information, current to the date the cessation order was issued, or notify the Department in writing that there has been no change since the immediately preceding submittal of such information:

1. Any new information needed to correct or update the information previously submitted to the Department by the permittee under 62 Ill. Adm. Code 1778.13(c); or
2. If not previously submitted, the information required from a permit application by 62 Ill. Adm. Code 1778.13(c).

I. Species Protection:

1. Issuance of this permit under the Surface Coal Mining Land Conservation and Reclamation Act does not in any way authorize any take of any listed species in violation of the Illinois Endangered Species Protection Act, 520 ILCS 10/1 et seq. or The Endangered Species Act of 1973, 87 Stat. 844.16. U.S.C. Sect 1531 et seq. With respect to the Indiana bat and the northern long-eared bat, an incidental take authorization has been approved as part of this permitting action consistent with and in compliance with The Endangered Species Act of 1973, 87 Stat. 844.16. U.S.C. Sect 1531 et seq. If any other "take" as defined by these Acts is anticipated to result from permitted activities, it is recommended that the permittee apply for an incidental take permit from the Illinois Department of Natural Resources, Office of Resource Conservation for state listed species, and the U.S. Fish and Wildlife Service for federally listed species.
 2. Issuance of this permit under the Surface Coal Mining Land Conservation and Reclamation Act does not in any way authorize any take of a bald or golden eagle, including nests or eggs, in violation of the Bald Eagle Protection Act, as amended (16 U.S.C. 668 et seq.). If "take" as defined by the Bald Eagle Protection Act is anticipated to result from permitted activities, it is recommended that the permittee should apply for an incidental take (non-purposeful take) permit from the U.S. Fish and Wildlife Service.
 3. The applicant indicated a commitment to "establish bird boxes at the time of reclamation". The applicant shall, at the appropriate stage of reclamation as determined by the Department, consult the Department for the most appropriate bird species to target and submit information regarding structure and placement of bird boxes within the permit area.
- J. The permittee shall commence all groundwater and surface water monitoring approved by this permit upon initial disturbance of lands within the permit area. Monitoring shall be in accordance with the approved permit and/or as outlined in Appendix C of this findings document.
- K. Pursuant to 62 Ill. Adm. Code 1817.41(c), the applicant shall install proposed groundwater monitoring wells D13, D14, D15 and D16 within sixty (60) days of the issuance of this permit.

Boring logs and well construction diagrams shall be submitted for each installed groundwater monitoring well within thirty (30) days of the date well construction activities are completed. In addition to this information, the applicant shall provide an updated map showing the locations of the newly installed wells.

- L. Pursuant to 62 Ill. Adm. Code 1817.41(c), background groundwater monitoring for each of the newly installed wells shall be conducted within the first year after well installation is complete. Background monitoring shall be conducted on an approximate bi-monthly schedule (or a minimum of six samples collected within a twelve month period) for the following parameters:
 - 1. Aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chloride, chromium, cobalt, copper, cyanide, fluoride, iron (total), iron (dissolved), lead, manganese (total), manganese (dissolved), mercury, molybdenum, nickel, phenol, selenium, silver, sulfate, thallium, vanadium, zinc, pH, acidity, alkalinity, hardness, total dissolved solids and water elevation (reported in true elevation and not as depth to water).
 - 2. These sample results shall be submitted with the regular quarterly results for the existing groundwater monitoring wells at the mine facility.
- M. Pursuant to 62 Illinois Adm. Code 1817.41(c), routine monitoring of all groundwater monitoring wells, including the newly installed wells, shall follow the parameters listed above, on a quarterly basis.
- N. Pursuant to 62 Ill. Adm. Code 1778.15, the permittee shall possess all necessary legal rights to enter and conduct surface coal mining and reclamation operations within the permit area until final bond release is obtained.
- O. The approved operations plan includes construction of a coarse refuse impounding structure disposal facility meeting the size requirements of 30 CFR 77.216(a).
 - 1. As required by 62 Ill. Adm. Code 1784.16(c) or (e), the permittee shall submit to the Department proof of having obtained the necessary MSHA approvals prior to construction of the structure.
 - 2. As required by 62 Ill. Adm. Code 1817.49(a)(6), the permittee shall comply with the following:
 - a. For each stage that utilizes upstream construction, the permittee is required to verify design values.
 - b. Following any initial upstream coarse refuse lift placement, geotechnical testing of the lift and underlying fine refuse shall be conducted to confirm that the in-place material values are consistent with those used in the embankment design.

- c. Test results and an evaluation of how they compare to the design values, as well as any necessary design modifications, shall be submitted to the Department for concurrence prior to further upstream construction at any given stage.
- P. The approved post-mining land use includes woody wildlife areas adjacent to the disposal facility to be reclaimed. In order to ensure the long term stability of the reclaimed facility, trees shall not be planted until after the facility is capped and the site is determined by the Department to be suitable for reclamation and revegetation compatible with the natural surroundings and the approved post-mining land use pursuant to 62 Ill. dm. Code 1817.81(a)(3).
- Q. All operations as approved shall be contained within the area identified as bonded increment No. 1. The permittee shall clearly identify and mark the increment No. 1 area with methods outlined in Part II(1) of the application and as required by 62 Ill. Adm. Code 1817.11(a) and (d). the permittee shall file additional required bond for all successive areas or increments prior to expanding approved operations, and identify and mark these areas as appropriate.

V. CONCLUSIONS

Based upon the information contained in the permit and significant revision application, information otherwise available and made available to the permit and significant revision applicant, the comments of State Agencies, the foregoing analysis of the probable impact of the proposed operations, all findings and information contained herein and conditions set forth in Part IV, the Department finds that there is a reasonable basis on which to issue a permit and significant revision for the application, as modified.

Enter on behalf of the Illinois Department of Natural Resources, Office of Mines and Minerals, Land Reclamation Division as Regulatory Authority.

**Illinois Department of Natural Resources
Office of Mines and Minerals**


James Hafliger, Director

Dated: February 9, 2017

APPENDIX A

REQUIRED MODIFICATIONS



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

June 9, 2016

Kayla Primm
ICG Illinois, LLC
5945 Lester Road
Williamsville, IL 62693

Via Certified Mail 7015 1730 0001 4289 5528

Re: Modification to Permit No. 438
 Permit No. 3, Revision No. 9
 Viper Mine

The Department, after reviewing the information contained in the permit application and information otherwise available to the applicant, and after considering all comments received, has determined that modification of Permit application No. 438 and Revision No. 9 to Permit No. 3 is necessary. The modifications to the application shall comply with the requirements of 62 Ill. Adm. Code 1777.11. The modifications required by the Department are enclosed here. If the applicant does not desire to modify the permit application as described below, it may, by filing a written statement with the Department, deem the permit application denied, and such denial shall constitute final action.

Pursuant to 62 Ill. Adm. Code 1773.15(a)(1)(B)(i), modifications required by the Department shall be received within one year from the date of this letter. Absent the modifications required by the Department, the application does not demonstrate compliance with the requirements of the Illinois Surface Coal Mining Land Conservation and Reclamation Act, Regulations and Regulatory Program and the Department will issue a written finding denying the application.

The period for administrative review (62 Ill. Adm. Code 1847.3) shall commence upon:

- receipt by the applicant of a written decision from the Department, approving the application as modified, or
- if the applicant's modifications are insufficient, or if the applicant fails to submit the required modifications in accordance with 62 Ill Adm. Code 1773.15(a)(1)(B)(i), receipt by the applicant of a written decision from the Department denying the permit application, or
- receipt by the Department of the applicant's denial statement.

The modifications required by the Department are as follows:

1. Pursuant to 62 Ill. Adm. Code 1783.25(b), 1784.16(a), and 1784.23(c), and as required by Part I.10.B of the application, the Department is requiring the applicant to modify the application by submitting engineering certifications where the modifications result in changes to maps, plans or cross sections submitted under the original application.
2. Pursuant to 62 Ill. Adm. Code 1777.11(c), and as required by Part I.1 of the application, the Department is requiring the submittal of a verification by a responsible official of the applicant for the information being submitted as a result of this modification letter.
3. Part I.6.a of the application provided ownership and control information for the applicant. Upon review of the information provided, the review finds the information out of date. Pursuant to 62 Ill. Adm. Code 1778.13(c), the applicant must provide all owners and controllers (officers and directors) of the applicant as defined by 62 Ill. Adm. Code 1773.5 for five (5) years preceding the date of the application. The applicant must provide all owners up to and including the top level of the corporate structure. The applicant must provide all officers and directors for all of its owners.

The Department is requiring the applicant to provide the most current and accurate information for owners and controllers/officers and directors at this time for a more comprehensive review.

4. Pursuant to 62 Ill. Adm. Code 1778.13(d), the applicant's response to Part I.6.b of the application is inadequate. The applicant must provide permit and application information required for all of its owners and controllers identified in its response to Part I.6.a. This includes all the owners, officers and directors of its owners.

Specifically, the Department finds the following companies are or have been associated with an owner/controller of the applicant in the last five years:

Jacobs Ranch Coal LLC, Shelby Run Mining Company LLC, Otter Creek Coal LLC, Arch Reclamation Services Inc., Apogee Coal Co., Hobet Mining, Inc., Catenary Coal Co.

5. Pursuant to 62 Ill. Adm. Code 1778.14(c), the applicant's response to Part I.9. of the application is inadequate. The applicant must provide a listing of all violations for all operations which the applicant owns and controls under the 62 Ill. Adm. Code 1773.5 definition of owned and controlled and owns or controls. **This includes all entities provided in response to Part I.6.a and 6.b as required in modification Nos. 3 and 4 above.**

Specific to the information available for review, the Department finds additional information is required for the status of violation(s) for ICG Hazard County Line.

Additionally, the reviewer finds many permit holding companies associates with the ownership and control of the applicant that are not listed in response to Part I.9. The applicant shall provide an updated violation history to include any companies holding permits or pending applications that are associated with the applicant, its ownership and control as well as updates made in response to modification No. 4, above.

6. Pursuant to 62 Ill. Adm. Code 1783.25(a)(2) and as required by Part II.12.A, the applicant must supply water well locations and depths. The applicant references the Pre-mining Land Use Map, however the information is not found on the referenced map. Clarification of the appropriate map or addition of the information to the Pre-mining Land Use Map is required.
7. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1) and as required by Part III.B.1, the applicant must indicate owners of public and private water wells on the permit and adjacent area on an appropriate map. The Hydrologic Map indicates one private well but does not provide ownership information. The required information for the Village of Elkhart public water supply well (M12) is not supplied, further it is only indicated as an existing monitoring well location and not as a source of drinking water.
8. Pursuant to 62 Ill. Adm. Code 1784.26 and 1817.95 and as required by Part IV.8 of the application, the applicant shall supply a more detailed and comprehensive fugitive dust control plan.
9. Pursuant to 62 Ill. Adm. Code 1773.15(c)(10), a finding by the Department must be made regarding a no adverse effect on critical habitats for fish and wildlife and endangered or threatened species. To correctly and properly assess pre-mining land uses to determine critical habitats and potential impacts for wildlife, as required by Section 1817.97(a) and to make the Department's finding, the Pre-Mining Land Use Map designations for Permit No. 438 must be subdivided into the following per Operator Memorandum No. 2015-01, and to remain consistent with wildlife habitat designations throughout the permit application:
 - a) fish and wildlife-woody, or
 - b) fish and wildlife-herbaceous
10. Pursuant to 62 Ill. Adm. Code 1783.11 and as required in Part II.4 of the application, the Pre-Mining Land Use Map must be modified to indicate existing land uses within 1,000 feet adjacent to the proposed Permit No. 438 boundary.

11. Pursuant to 62 Ill. Adm. Code 1784.21(a)(2)(A) and (B) and as required in Part II.8 of the application, the applicant must supply site-specific resource information for adjacent areas that are likely to include listed or proposed threatened or endangered species or provide habitats of unusually high value for fish and wildlife species. The following protected resources near the proposed permit area should be addressed:

- a) Elkhart Hills Illinois Natural Areas Inventory
- b) Elkhart Hill Grove Land and Water Reserve
- c) Elkhart Hill Grove Nature Preserve
- d) North Elkhart Hill Grove Land and Water Reserve

Possible information provided shall include, but not be limited to, distances from the proposed permit boundary, threatened or endangered or otherwise protected species known to occur or with the potential to occur, and justification as to why the proposed operation will not have a negative impact on these protected resources. The following resources may be of assistance:

- <https://www.dnr.illinois.gov/conservation/NaturalHeritage/Documents/Database/INAICountyListDec2015.pdf>
- https://dnr.state.il.us/conservation/naturalheritage/documents/inpc_by_county.pdf
- <http://www.dnr.illinois.gov/INPC/Pages/default.aspx>

12. Pursuant to 62 Ill. Adm. Code 1784.21(a)(2)(B) and as required in Part II.8 of the application, the applicant must supply information regarding habitats of unusually high value within the proposed permit area, including wetlands. For example, according to the wetlands delineation study found in Attachment G, 14.93 acres of potential wetlands exist onsite.

Part II.8 of the application shall be updated with a narrative explaining the potential wetlands and a justification for not providing protection and enhancement of these wetlands. The information provided in Part V.3.B.2 shall be included in the narrative.

13. Pursuant to 62 Ill. Adm. Code 1783.19 and as required by Part II.9 of the application, the applicant shall indicate which map within the application serves as the vegetation description map for the permit and adjacent areas.
14. Pursuant to 62 Ill. Adm. Code 1817.46(b)(1) and (4), Section 1817.49(a)(8), and as required by Part IV.7.C of the application, the applicant shall clarify what grass species will be used to vegetate drainage structures including ditches and embankments of sediment ponds used during operations. The species list provided in Part V.1.D.2.b does not specifically include grass species for these structures during operations. Should the

applicant plan to utilize one of the seed mixes, please specify and note that a justification for use of non-native species in accordance with Section 1817.111(c) is required.

15. Pursuant to 62 Ill. Adm. Code 1784.13(b)(5)(B) and as required by Part V.1.D.2.b of the application, the response for woody wildlife acres shall be updated to include the amounts per acre of seeds and/or seedlings to be planted at reclamation in an effort to achieve the stated revegetation success criteria of 250 live trees per acre. The pertinent section of Attachment V-3-B-1 (Protection and Enhancement Plan) regarding tree plantings shall be updated with the required information.
16. Pursuant to 62 Ill. Adm. Code 1817.97(g)(3), species used for re-vegetation must be able to support and enhance wildlife habitat after bond release. Part V.1.D.2.b of the application shall be updated by removing any ash (*Fraxinus* spp.) in the woody species list due to the presence of the Emerald Ash Borer in Logan and several surrounding counties. The pertinent section of Attachment V-3-B-1 (Protection and Enhancement Plan) regarding tree plantings shall be updated with the removal of any ash species.
17. Pursuant to 62 Ill. Adm. Code 1817.111(a)(2), species used for re-vegetation must be comprised of species native to the area. The applicant has proposed to use non-native herbaceous species to support woody wildlife post-mining land use areas. Part V.1.D.2.b of the application shall be updated to provide a justification for the use of non-native grass species in woody wildlife areas in accordance with Section 1817.111(a)(2) and/or 1817.111(c) and that is consistent with information provided in Attachment V-3-B-1 (Protection and Enhancement Plan) or provide a species list for ground cover in tree replacement area that is comprised of native species.
18. Pursuant to 62 Ill. Adm. Code 1817.111(a) and (b), the species used for re-vegetation must be diverse, capable of stabilizing soil, capable of re-generation and plant succession, and be compatible with animal species in the area. The applicant should consider the addition of native cool season grass species semi-permanent cover species list that will be part of the stabilization phase leading to the establishment of the approved native permanent cover.
19. Pursuant to 62 Ill. Adm. Code 1784.13(b)(5) and as required by Part V.1.D.3 of the application, a description of planting and seeding methods and a management plan for the establishment of native grass herbaceous wildlife habitat is required. The applicant references Attachment E, however this information is not found within the attachment. Part V.1.D.3 of the application shall be updated to include a narrative and detailed plan for revegetation so that a finding under Section 1773.15(c) can be made. With the understanding that establishment of native warm and cool season grasses and native forbs may require more intensive practices, the applicant shall provide information including but not limited to a strategy for successful establishment, timing and methods of

elimination of any proposed non-native semi-permanent cover species, seeding and mulching methods, methods for fertilizer application, and a long term management strategy.

20. Pursuant to 62 Ill. Adm. Code 1817.97(a), 1784.21(b)(3)(B) and as required by Part V.3.A.2 of the application, the applicant shall describe additional measures to achieve enhancement of fish and wildlife resources, specifically migratory birds and wildlife food and cover. If additional enhancement measures are impractical, the applicant shall provide that justification for Department consideration.
21. Pursuant to 62 Ill. Adm. Code 1817.97(a) and (e), 1784.21(a)(2)(C), and (b)(3)(A), the applicant shall discuss how, to the extent possible and using the best technology currently available, the operations will be modified to ensure electric powerlines are designed and constructed to minimize electrocution hazards to raptors and how operations will be modified to provide impact control measures, management techniques, and monitoring methods to protect species including but not limited to eagles and migratory birds.

If the applicant proposes construction or relocation of powerlines and/or if raptors or migratory birds are known to occur in the project area, then Part V.3.B.2 of the application shall be updated with information regarding protection of raptors, eagles, and migratory birds from powerline electrocutions and collisions.

If the applicant does not propose the construction or relocation of powerlines, or if the required information is not relevant for an alternative reason, then the applicant shall state in Part V.3.B.2 of the application the justification for not providing the information. The following are suggested resources:

- “Suggested Practices for Avian Protection from Powerlines: The State of the Art in 2006”
http://www.dodpif.org/downloads/APLIC_2006_SuggestedPractices.pdf
- “Reducing Avian Collisions with Power Lines: The State of the Art in 2012”
http://www.aplic.org/uploads/files/11218/Reducing_Avian_Collisions_2012watermarkLR.pdf

22. Pursuant to 62 Ill. Adm. Code 1816.97(c) and (d) and as required by Part V(3)(B)(2) of the application, the applicant shall provide information to ensure that mining activity will be conducted in a manner that will not result in the taking of a Bald or Golden Eagle, nests, or eggs. It should be noted that “take” includes the disturbance of bald eagles to the degree that it substantially interferes with breeding, feeding, or sheltering behavior or results in injury. Although the Bald Eagle is no longer a listed species it is still protected under the Bald Eagle Protection Act as amended (see : <http://www.fws.gov/midwest/eagle/protect/laws.html>).

Specifically, the application must be modified to provide current and accurate information on distances to known Bald Eagle and nests within a one mile radius of the permit boundary. If none exist, then this should be specifically stated. If nests exist within a one mile radius, a Protection and Enhancement Plan must be supplied. Information should also include any species protected under the Bald Eagle Protection Act as amended.

23. Pursuant to 62 Ill. Adm. Code 1784.21(a)(2)(A) and (C), 1817.97(e)(4), and as required by Part V.3.B.2 of the application, the applicant shall provide information on whether or not ponds on site will contain hazardous concentrations of toxic-forming materials and if so, then describe how control measures, management techniques, and monitoring methods will be used to ensure how wildlife protected under the Endangered Species Act, Migratory Bird Treaty Act, and the Bald Eagle Protection Act are excluded from these areas, or provide justification for why these measures are not proposed.
24. Pursuant to 62 Ill. Adm. Code 1777.11(a) and (b), all information provided shall be clear, concise, and appropriately referenced. Two in-text citations provided in Attachment V-1-B-3 found in Attachment G of the application are not listed in the Literature Cited section. The application shall be updated to contain all appropriate citations.
25. Pursuant to 62 Ill. Adm. Code 1777.13, the applicant shall provide names and credentials of persons or organizations that have made each determination of possible impacts to wildlife and threatened and endangered species.
26. Pursuant to 62 Ill. Adm. Code 1783.21, Part II.13.A, pages II-6 and 7 must be modified to correctly reference that the soil productivity information comes from the most recent update of Bulletin 811.
27. Pursuant to 62 Ill. Adm. Code 1784.22(b) and as required by Part III.2.A.1., the applicant did not provide true geologic cross-sections of the proposed permit area. At a minimum, at least two geologic cross-sections, perpendicular to one another and based upon the site-specific drilling that was conducted shall be submitted. Attention shall be given to depict the location(s) of the Pearl Aquifer, Kansas Outwash, and surficial aquifer, as well as depth to bedrock, if applicable.
28. Pursuant to 62 Ill. Adm. Code 1784.22(b) and as required by Part III.2.A.1., the applicant shall provide all of the boring logs and geologic information from the test pits and boreholes drilled within the proposed permit area, as an attachment to Part III.
29. Pursuant to 62 Ill. Adm. Code 1784.22(b)(2)(B) and as required by Part III.2.A.2., the applicant did not provide the acid-base accounting for the slurry or fine coal refuse to be

deposited in the proposed permit area. In addition, a table, clearly depicting the acid-base accounting information for all of the proposed components of the North Coal Refuse Slurry Impoundment shall be provided. This table shall depict the acid-base accounting of the slurry/fine refuse, coarse refuse, of the proposed CCW to be used and of the coarse refuse/CCW blend.

30. On page 3 of Part III, the applicant requests "*A variance from background sampling on 2-month intervals...*" It appears that the applicant has conducted quarterly monitoring of the newly installed wells (DW6, DW7, DW8, DW9, DW10, DW11 and DW12) for at least the last three years. The Department does not require bi-monthly sampling to establish background, therefore, pursuant to 62 Ill. Adm. Code 1784.14(h), the applicant shall withdraw this request, as the decision was made to establish background groundwater quality on data collected on a quarterly basis.
31. In Part III.2.B.1., the applicant has not provided a table or listing of private wells within one-half mile of the proposed permit area. In addition to this, the applicant did not provide a Water User's Survey of the private wells in the area. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1), this information shall be provided.
32. The applicant presented quarterly groundwater monitoring well data collected from March 2012 to December 2014. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(A) and as required by Part III.2.B.2., the applicant shall provide the most recent groundwater data collected for the seven installed monitoring wells (DW6, DW7, DW8, DW9, DW10, DW11 and DW12).
33. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(B) and as required by Part III.2.B.3, the applicant shall provide a potentiometric map of the Pearl Aquifer, the Kansan Outwash, and the surficial aquifer in the vicinity of the proposed permit area.
34. The applicant states that there are no surface water bodies, streams, lakes, etc. within the proposed permit area. However, a review of the Site Hydrologic Map appears to indicate that Lake Fork Creek (Lake Fork Tributary) are located within the adjacent area of the proposed permit area. Pursuant to 62 Ill. Adm. Code 1784.14(b)(2) and as required by Part III.2.C.1, the applicant shall clearly identify all surface water bodies, lakes, streams, springs, etc. within the adjacent area and/or within one-half mile of the proposed permit area.
35. Pursuant to 62 Ill. Adm. Code 1784.14(b)(2) and as required by Part III.2.C.2., the applicant shall provide information on the surface water quality and quantity of the water bodies required by Modification Question No. 34 above.

36. The applicant states that the Pearl Aquifer is in contact with the Kansan Outwash, but also states that there is a low permeability layer that separates the Pearl and Kansan units. This information seems to contradict. Pursuant to 62 Ill. Adm. Code 1784.14(e)(1) and as required by Part III.2.D.1.a., the applicant shall provide a narrative discussion, including where applicable, supporting documents and diagrams that indicate that the proposed operations will not negatively impact the underlying aquifer system(s) and to clarify the aquifer system(s) within the vicinity of the proposed permit area.
37. Pursuant to 62 Ill. Adm. Code 1784.14(e)(1) and as required by Part III.2.D.1.d.i through Part III.2.D.1.d.v, the applicant did not provide a discussion of the potential groundwater impacts from the proposed operation to the listed parameters.
38. The applicant did not provide hydraulic conductivity analyses for the newly installed wells. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1)(B), the applicant shall provide justification for the lack of hydraulic conductivity analyses for the newly installed groundwater monitoring wells.
39. The applicant did not provide a discussion of the Cumulative Impact Area or CIA for the proposed operation. Pursuant to 62 Ill. Adm. Code 1784.14(e)(1) and as required by Part III.2.D.1 of the application, the applicant shall provide a narrative discussion and supporting maps or other documentation to define the CIA for this mine area.
40. As noted in the application, it appears that artesian conditions exist in the Pearl Aquifer, as indicated in some of the newly installed groundwater monitoring wells for the proposed permit area. Pursuant to 62 Ill. Adm. Code 1784.14(e) and as required by Part III.2.D.1, the applicant shall discuss the artesian conditions and demonstrate how the proposed construction techniques and activities will not impact the assumed aquitard present above the Pearl Aquifer. Additionally, please discuss what affects the removal of this artesian water may have on the local aquifers and the nearby Public Water Supply wells.
41. In Part III.2.D.1.d.iv, the applicant states that the availability of groundwater recharge will be "*nominally diminished*" by the proposed operation. Pursuant to 62 Ill. Adm. Code 1777.11(a)(2), please define what "*nominally diminished*" means; including how a nominally diminished recharge may impact the public water supply well for the Village of Elkhart.
42. The applicant references a "Water Monitoring Map of Attachment A" on page 12 of Part III. This map cannot be located within the submitted permit application. Pursuant to 62 Ill. Adm. Code 1774.14, the applicant shall provide the referenced map or clearly describe the location within the permit application where this map may be found.

43. Nomenclature discrepancies exist in the names of the installed groundwater monitoring wells for the proposed permit area. The well names must be consistent between the well logs/well construction diagrams, the application narrative and tables, and the application maps. Currently, the wells are noted as being D6, DW6, and DW-6, etc. Pursuant to 62 Ill. Adm. Code 1777.11, the applicant shall correct these discrepancies.
44. The following discrepancies are noted on the Site Hydrologic Map (Drawing No. 092043-D103):
- a) Groundwater monitoring well D4R is not depicted, but is discussed in the narrative.
 - b) Groundwater monitoring wells DW4, MW112, and M7 are depicted on the map, but are not discussed in the narrative portion of the application.
 - c) Lake Fork Tributary/Lake Fork Creek is mentioned in the narrative portion of the application, but is not depicted on the map.
 - d) One-half mile radius is not depicted on the map.
 - e) NPDES Outfalls (existing and proposed) are not depicted on the map.
 - f) A single private well is depicted on the map, but no additional information is provided.

Pursuant to 62 Ill. Adm. Code 1777.11, the applicant shall correct these discrepancies.

45. Pursuant to 62 Ill. Adm. Code 1783.25(a)(2) and as required by Part III.4.c., the applicant did not locate wells and springs within one-half mile of the proposed permit area. Please provide the necessary response.
46. Pursuant to 62 Ill. Adm. Code 1783.14(e)(3) and as required by Part III.4.d., the applicant did not answer the required permit application question. Please provide the necessary response.
47. Pursuant to 62 Ill. Adm. Code 1783.25(a)(10) and as required by Part III.6., the applicant did not provide the name and addresses of all public water supplies within ten miles of the proposed permit area. The water supplies of the communities of Mt. Pulaski, Williamsville, Middletown, Sherman and Lincoln, at a minimum shall be considered in this response.
48. On page 20 of Part III, the applicant provides limited information regarding the public water supplies for the villages of Elkhart and Broadwell, indicating that both communities utilize groundwater as their potable supplies. There is a "(2)" and a "(3)" behind the "Well" under the Type category; however no explanation as to what these numbers refer to. There is no information regarding the depths of these public water supply wells or the locations, as no map was provided.

Therefore, pursuant to 62 Ill. Adm. Code 1783.24(g), the applicant shall provide additional discussion and information on the public water supplies located within ten miles of the proposed permit area. Additionally, the applicant shall provide a map that depicts the locations of all public water supplies within ten miles of the proposed permit area.

49. Pursuant to 62 Ill. Adm. Code 1784.14(g) and as required by Part III.7, the applicant shall provide additional information regarding the Public Water Supply (PWS) Well for the Village of Elkhart. In Part IV.6.H., the applicant states that suitable locations for a replacement well exist if replacement of the PWS well becomes necessary. Please provide a detailed discussion on the process that will be taken to identify and locate a suitable location for a replacement should it become necessary in the future.
50. Pursuant to Operator Memorandum 2012-4, the applicant must ensure that all technical data presented in the application is properly identified and compliant with 62 Ill. Adm. Code 1777.13(a).
51. The following comments are being made regarding the Engineering Report, dated August 2015, included as part of this permit application:
 - a) References are made to "D'Appolonia's July 1996 Report", "D'Appolonia's August 1981 Report", and to a "Geotechnical Report, North Coal Refuse Slurry Impoundment". Pursuant to 62 Ill. Adm. Code 1777.11(b), these pertinent portions of referenced materials shall be readily available.
 - b) There are numerous references to "the report" but it is unclear which report is cited. Please clarify which "report" is being referenced.
 - c) Table 3.4 of the Engineering Report lists the water elevations for the installed groundwater monitoring wells. However, this table only presents data for the 2013 calendar year. This table shall be updated to include all of the water elevations collected to date.

Pursuant to 62 Ill. Adm. Code 1777.11, the above noted discrepancies shall be corrected.

52. Attachment F – Groundwater Monitoring Well Logs and Diagrams – has been presented by the applicant. The following comments relate to the information provided in this Attachment:
 - a) Total well depth discrepancies exist for two wells, DW6 and DW12. Please review the boring logs and well construction diagrams for these two wells and make the necessary corrections.

- b) Well DW10 does not appear to be screened within the Pearl Aquifer, as the other installed groundwater monitoring wells are. Please provide an explanation for the screen location of this well.
- c) Several of the groundwater monitoring wells were not sampled during the March 2012 to December 2014 period. The explanation provided in the data tables is: "Unable to access". Please provide an explanation as to why the wells were not accessible during the sampling events.

Pursuant to 62 Ill. Adm. Code 1777.11, the above noted discrepancies shall be corrected.

53. The following comments pertain to The Subsurface Exploration Plan, Sheet 4 (Drawing No. 092043-D403):
- a) This map depicts the locations of the test pits and the bore holes. The associated boring logs from this exploration drilling program are not provided in the application. Pursuant to 62 Ill. Adm. Code 1784.22(b), this information shall be provided.
 - b) This map also appears to depict the locations of "Existing Water Wells", but no discussion of these wells has been provided. Pursuant to 62 Ill. Adm. Code 1784.14(b)(1) and as required by Part III.2.B.1, the applicant shall provide information on these "identified wells."
54. The cross-sections provided on Sheets 5, 6 and 7 do not clearly differentiate between the Pearl Aquifer and the other identified unconsolidated units. As noted in Modification Question No. 27 above, geologic cross-sections which clearly depict the subsurface geology of the proposed permit area must be provided.
55. The Department is in receipt of a letter from the Illinois EPA dated February 11, 2016 requesting clarification or additional information. Pursuant to 62 Ill. Adm. Code 1784.14, please provide responses to those questions contained in the referenced IEPA letter as a part of this modification package. Including this information will assure coordination with each agency's regulations. If any response to the IEPA's comment would result in changes to this permit application, clearly indicate which application part and/or map is being revised.
56. In response to Part I.12.C.1 of the application, the applicant has identified various proposed surface facilities within 100 feet of the right-of way of public roads and provided a discussion of how the public will be protected. Pursuant to 62 Ill. Adm. Code 1784.18(a), the applicant shall provide the following:

- a) A map that clearly locates the proposed mining operations that will be located within 100 feet of both the road right-of-way and road surface edge with an off-set line and associated distance for each.
 - b) The applicant shall specifically identify the existing site entrances off of Township Roads 600N, 700N, and 800E listed in the draft public notice. The approximate time frame and intended use shall also be specified.
57. In response to Part II.13.D, page II-9 of the application concerning Soils Information, the applicant states the topsoil replacement thickness will be 24 inches. Pursuant to 62 Ill. Adm. Code 1784.13, the applicant shall address the following:
- a) The 24 inch value conflicts with other statements defining lesser thickness across the area and the referenced documents do not provide the onsite data taken to validate this number. The applicant shall justify the 24 inch value for topsoil thickness or provide a more representative value. If the resultant value is less than 24 inches, all necessary changes to the application to correct topsoil thickness values shall be incorporated.
 - b) Based on the response to a), Part V(1)(C) and Table V-1C shall also be modified as necessary.
58. In response to Part IV.7.A.2 of the application, the applicant answers "yes" to collection and treatment of all affect mining areas prior to leaving the permit area. This appears to conflict with statements in Part III.2.C.1 and Section 4.5: Phase III of the Engineering Report. Pursuant to 62 Ill. Adm. Code 1817.46(b)(2), the applicant shall clearly define the specific areas that will not report to a sediment pond. Such areas shall be clearly defined on an appropriate map and defined by acreage size.
59. In response to Part IV.2.B of the application, the applicant references the Affected Acreage and Operations Map (P3). This map depicts a currently existing Temporary Subsoil Stockpile where the West Topsoil Stockpile is proposed to be located. Pursuant to 62 Ill. Adm. Code 1817.22(a)(1), the applicant shall provide details on how the operation will ensure no subsoil and topsoil will be mixed.
60. In response to Part IV.3.C of the UCM-1 application, the applicant references the Engineering Report regarding potential subsidence affecting the proposed impoundment. Section 6.9 of the Engineering Report references observations made in borings drilled into the mined area. Pursuant to 1784.16(a)(1)(D), the applicant shall provide the specific locations of the borings referenced.
61. In response to Part IV.7.D.3 of the application, the applicant references the Engineering Report Calculation Brief for design calculations. Pursuant to 62 Ill. Adm. Code 1784.16,

the following design information shall be addressed and calculations, maps, and plans revised as necessary:

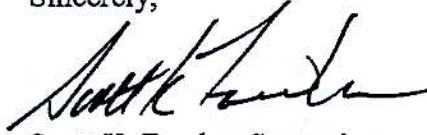
- a) The report provides point precipitation frequency estimates published by NOAA Atlas 14. For consistency in Illinois permitting, the Department is requiring the use of the expected extreme rainfall events found in the Illinois State Water Survey (ISWS) Bulletin 70 as opposed to the data utilized in this submittal. Please refer to Table 13 from Bulletin 70 for precipitation values.
 - b) A runoff curve number (CN) of 85 was used for coarse coal refuse while a runoff curve number of 91 was selected for newly graded areas and site development areas. Please provide justification for the selected values and adjust calculations, if necessary.
 - c) For clarity, the applicant shall provide a watershed map or maps to define sub-watershed acreages used in design calculations.
62. In response to Part IV.7.F of the application, the applicant references the Engineering Report Calculation Brief for the Sediment Pond design. The applicant defines an area for disturbed drainage that differs from the overall footprint of the structures/stockpiles. Pursuant 62 Ill. Adm. Code 1817.45, the applicant shall explain the selection of the total disturbed drainage area.
63. In response to Part IV.7.G of the application concerning sediment removal, the applicant discusses removal of sediment with suitable excavation equipment. Pursuant to 62 Ill. Adm. Code 1817.41(b), the applicant shall indicate how the liner will be protected from damage should cleanout of sediment accumulation be necessary. The applicant shall also discuss what measures will be taken if the liner does become damaged.
64. Pursuant to 62 Ill. Adm. Code 1784.16, the following corrections or clarifications are deemed necessary concerning the Design Plan Engineering sheets:
- a) Sheet 2 shall differentiate the existing contour, proposed contour major, and minor line types in the Legend.
 - b) Although the routing of drainage and associated calculations incorporate a culvert EC-2, Sheet 20 does not appear to locate and identify culvert EC-2.
 - c) Sheet 30 depicts the plan view location of cross-sections A-A and B-B. On the map provided, or another appropriate map, please show the stationing.
 - d) Sheet 33 provides cross section B-B. Upstream construction is proposed on both the east and north sides of the impoundment. Cross section B-B on the north embankment design drawing uses different line drawing techniques to depict upstream construction when compared to cross section A-A. The B-B cross section shall be revised to conform to the design as shown on cross section A-A, Sheet 31 or explain the appropriateness of the difference.

- e) Sheet 45 depicts an auxiliary spillway with a 25 foot minimum bottom width for the West Sediment pond. On page A1-4 of the calculation brief, the applicant uses a 30 foot bottom width for the auxiliary spillway design. The applicant shall correct this discrepancy.
 - f) Concerning Sheet 45 (West Sediment Pond) and Sheet 46 (Northeast Sediment Pond) the peak 100-yr storm conflicts with the calculation briefs on A3-138 and A4-62 for the 6-hour storm. The applicant shall correct this discrepancy.
 - g) Sheet 52 of the design plan defines "PENNDOT Type A Cement Concrete Sand". This nomenclature shall be replaced with an appropriate Illinois equivalent designation or provide the actual specifications for this material.
65. In response to Part IV.6.H of the application, the applicant references the Engineering Report that discusses an underdrain system to reduce hydraulic head on the liner. In Section 7.4: Hydraulic Head on Geomembrane Liner of the Engineering Report, the applicant states, "During operation of the impoundment, clarified water will be initially established by closing the underdrain outlet pipe valves until sufficient fine coal refuse has been deposited over the impoundment underdrain, anticipated to be of the order of 10-feet" (Page 65). However, Section 8.1.4: Impoundment Underdrain of the Engineering Report anticipates the fine coal deposition to be about 20-feet (Page 72). Pursuant to 62 Ill. Adm. Code 1784.16. The applicant shall clarify the discrepancy of fine coal deposition depth and discuss what measures will be taken before allowing a discharge.
66. In response to Part IV.6.B of the application, the applicant provides a design for an impounding structure that meets the MSHA requirements of 30 CFR 77.216. Pursuant to 1817.49(a)(2), the applicant shall submit to the Department documentation of having obtained the necessary MSHA approvals prior to utilization of the structure. If the review from MSHA warrants modification to the proposed plan, then those changes shall be documented and incorporated into the final application submitted to the Department.
67. In response to Part IV.7.D of the application, the applicant references drawings in Attachment E. Sheet 14 and 19 found in Attachment E depict pump and discharge lines. In the construction sequence notes, the pumps are used to remove accumulated water in the excavation area. Pursuant to 62 Ill. Adm. Code 1817.45, the applicant shall describe how off-site discharges will not occur if the pumps were not operational.
68. In response to Part V.1.C of the application, the applicant references Table V-1C providing material quantities for soil cover balancing. Pursuant to 62 Ill. Adm. Code 1784.13, the applicant shall provide further information concerning depth of excavation across the footprint to justify the values cited.

Kayla Primm
Modification to Permit No. 438
Permit No. 3, Revision No. 9
Viper Mine
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If you have any questions, please contact this office at (217) 782-4970.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott K. Fowler", written in a cursive style.

Scott K. Fowler, Supervisor
Office of Mines and Minerals

SKF:JSc

cc: K. Dodson
Logan County Clerk

APPENDIX B

CONSIDERATION OF COMMENTS AND OBJECTIONS

62 Ill. Adm. Code 1773.13(b) allows submission of written comments on applications. The following are comments received from the State Agencies, County Board and other members of the public and the Department's response to those comments.

Illinois Department of Agriculture

Comment: Under question 13)A) (Part II) the applicant indicated that soils information for crop productivity of map units was derived from the published Soil Survey for Logan County. However, the yield data was derived from Bulletin 811 (*Optimum Crop Productivity Ratings for Illinois Soils*, updated on 1/2/2012).

Response: A modification question was asked to clarify the discrepancy. Please see Appendix A, modification question no. 26 and applicant response.

Comment: Questions (13)(D) and (13)(E) in Part II, page 9 indicates 24 inches of topsoil replacement when reclamation is complete. However, there is no table of soils information that lists the depth of topsoil for individual map units, the depth of subsoil or a calculation of how the topsoil thickness was derived based on acreages of each map unit and the average depth of topsoil in each map unit. The 24-inch depth of topsoil becomes questionable when the application indicates that topsoil depths range from 8 to 24 inches. Please show how the average topsoil depth was derived and explain how a range of topsoil depths can have a weighted average of 24 inches.

Response: A modification question was asked to clarify the discrepancy. Please see, Appendix A, modification question no. 57 and applicant response.

Illinois Environmental Protection Agency

Comment: 1. The Schedule A provided in the application did not include longitude latitude coordinates for the proposed outfalls. The draft NPDES permit prepared for this facility will require longitude and latitude coordinates for each outfall, the Applicant should revise the Schedule A to include this information.

2. In Part II(13)(D), the Applicant indicates that a 24 inch compacted soil cap will be installed below 24 inches of topsoil/growth medium.

The Applicant shall:

- a. Consistently achieve a hydraulic conductivity of 1×10^{-7} cm/sec or less in the 24 inch compacted zone.
- b. Construct the compacted zone from multiple loose lifts of soil material.
- c. Test the compacted layer to assure consistent compaction.

d. Provide a quality assurance program that gives a detailed description of the processes utilized to construct and test the compacted soil cap.

3. Part III(2)(B) of the application discusses groundwater monitoring that has been conducted at monitoring wells DW-6 through DW-12, to establish existing groundwater conditions. The Applicant shall use all of the groundwater monitoring data collected from monitoring wells DW-6 through DW-12 prior to the initiation of construction activities subject to this permit application to calculate an upper tolerance limit (upper and lower limit for pH) for each chemical constituent listed in Attachment F, Schedule B. The Applicant shall:

- a. Utilize an appropriate statistical method to calculate the upper tolerance limit (upper and lower tolerance limit for pH) with 95% confidence.
- b. Provide the tolerance limit calculation results to the mine pollution control program in Marion.
- c. On-going monitoring of DW-6 through DW- 12 shall be quarterly.

4. Attachment F, Schedule B, the Applicant shall clarify whether the meaning of "Normal Water Elevation (msl)" listed in Schedule B is the same as "static water elevation". If the two terms are not equal, the Applicant shall add static water elevation to Schedule B, and measure and report static water elevation with the other required groundwater monitoring data.

5. The Applicant will be required to install four (4) additional monitoring wells in the OMM Permit Area 438. Using the easting and northing coordinates from the Attachment A, Site Hydrologic Map, Sheet P4 and continuing the "DW" number designation used for the wells surrounding the North Coal Slurry Impoundment, the wells shall be located as follows:

- a. Proposed DW-13: N1,218,500.40; E697,500.45 (west of the West Sedimentation Pond, near the permit boundary).
- b. Proposed DW-14: N1,221,000.00; E700,347.00 (north of existing DW-8).
- c. Proposed DW-15: N1,221,852.41; E702,500.20 (east of existing DW-11, north of the Northeast Sediment Pond).
- d. Proposed DW-16: N1,220,500.00; E702,868 .53 (north of existing DW-6, east of the North Coal Slurry Impoundment).

6. Upon permit approval Monitoring Well Nos. DW-13 through DW-16 shall be provided as follows:

- a. shall be constructed with a minimum of 10 feet of casing,
- b. shall be screened in the upper 10feet of the first sand or sand and gravel formation encountered, unless this requirement is in conflict with Comment 5(a), in which instance the screen shall be immediately below the 10 feet of casing,
- c. shall be monitored quarterly for the parameters listed in Attachment F, Schedule B,

- d. monitoring results shall have the same reporting requirements as DW6-DW-12,
- e. geologic well logs and monitoring well construction diagrams shall be submitted to the Agency and the Department of Natural Resources upon well completion.

7. Part III(2)(D)(1)(a), the Applicant proposes the use of a 60 mil HDPE liner under the North Slurry Impoundment, associated sediment ponds and water conveyance structures (ditches) that connect these structures. The Applicant shall provide a liner QA program that addresses:

- a. Liner bedding requirements,
- b. Installation requirements,
- c. Testing requirements,
- d. Protective layer requirements.

8. Part IV(7)(J)(2), the Applicant states that sediment ponds will be backfilled to the approximate original contour. The Applicant shall explain how the HDPE liners in the sediment ponds and any lined ditches that will be reclaimed are to be managed at reclamation.

9. Since discharges from flooded sedimentation ponds would likely not meet permit effluent limits, all sedimentation ponds and discharges should be located outside the limits of the flood plain area or otherwise protected from flood waters entering the pond to the greatest extent possible. To ensure that flood waters will not back-flow into the ponds and adversely affect the discharge quality, the 100-year flood plain should be plotted on an appropriate map and Part IV(7)(F)(1) of the application should be revised to provide a discussion of the effects a 100-year flood event may have on each sedimentation pond and outfall.

Response: See response to Appendix A, modification question no. 55.

U.S. Department of Agriculture, Natural Resource Conservation Service

Comment: The Farmland Protection Policy Act (FPPA, Public Law 97-98, subtitle I of Title XV, Section 1539-1549) requires NRCS to assess impacts to prime farmland of all federally funded projects. If Viper Mine project will involve use of federal funds, the company and relevant agencies must coordinate with NRCS to ensure completion of a land evaluation and site assessment (LESA), as captured in federal form AD-1006.

A review of NRCS easements on the new area was done and found no conflicts with current NRCS program enrollees.

Response: Comment noted and forwarded to applicant.

U.S. Department of the Interior, Fish and Wildlife Service

Comment: The Migratory Bird Treaty Act of 1918 (MBTA), as amended, establishes a federal prohibition, (unless permitted by regulations) to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird" (16 U.S.C. 703). Additional information on the MBTA can be found at <http://www.fws.gov/laws/lawsdigest/migtrea.html>

Response: Comment has been forwarded to applicant. The Department required supplemental information from the applicant regarding protection of migratory birds. See Appendix A, modification question nos. 21 and 23 and applicant response. The supplemental information required by modification is consistent with the Department's regulatory authority and permit application requirements.

Comment: Although the bald eagle has been removed from the threatened and endangered species list, it continues to be protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA). The Service developed the National Bald Eagle Management Guidelines to provide landowners, land managers, and others with information and recommendations regarding how to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance," which is prohibited by the BGEPA. The Service is unaware of any bald eagle nests in the proposed project area; however, if a bald eagle nest is found in the project area or vicinity of the project area then our office should be contacted and the guidelines implemented. A copy of the guidelines is available at: <http://www.fws.gov/migratorybirds/CultEntBirdIssues/Management/BaldEagle!NationalBaldEagleManagementGuidelines.pdf>

Response: Comment has been forwarded to applicant. The Department required supplemental information from the applicant regarding distances to known Bald Eagle nest locations. See Appendix A, modification question no. 22 and applicant response. The supplemental information required by modification is consistent with the Department's regulatory authority and permit application requirements.

Comment: We invite you to use a new tool the Service has designed to help with the consultation process - the Section 7(a)(2) Technical Assistance webpage (<http://www.fws.gov/midwest/endangered/section7/s7process/index.html>). The webpage provides guidance to help you determine what your action area is, whether endangered species may be found within the action area, and if your project and associated actions may affect listed species. You will also find

several products on the site that can streamline the consultation process for this and future projects, including up-to-date county-specific species lists for all of the states in Region 3 and example letters for documenting your findings related to endangered species.

Response: Comment noted.

Comment: The Service is [sic] providing the following list of threatened and endangered species to assist in your evaluation of the proposed permit. The list for the proposed permit area includes the endangered Indiana bat (*Myotis sodalis*), threatened Eastern prairie fringed orchid (*Platanthera leucophaea*), and threatened northern long-eared bat (*Myotis septentrionalis*). There is no designated critical habitat in the project area at this time.

Information in the permit application indicates that suitable habitat for the Eastern prairie fringed orchid does not occur within the permit area. Based on this information, the Service concurs that the proposed activity is not likely to adversely affect the Eastern prairie fringed orchid.

Information in the permit application indicates that 7 acres of potential Indiana bat and northern long-eared bat habitat will be impacted by the proposed mining activity. Based on the availability of suitable habitat, presence of the Indiana bat and northern long-eared bat was assumed and a Protection and Enhancement Plan (PEP) was developed for the proposed mine area in accordance with the 2009 Range-wide Indiana Bat PEP Guidelines. The PEP includes a number of protection and enhancement measures including winter tree clearing from October 15 to March 31, and reforestation of 17.1 acres of Fish and Wildlife Woody as post-mining land use with 4.9 acres of trees that will be trees specific to replacement of bat habitat and be composed of species found in the 2013 guidelines (the full proposed species list is also comprised of the same species found in the PEP).

Based on the information in the permit application, the Service has determined that the take of 7 acres of potential habitat is not likely to jeopardize the continued existence of the Indiana bat or northern long-eared bat.

Response: The applicant has supplied all required information regarding threatened and endangered species. Because the service concluded that no designated critical habitat exists within the permit area and no suitable habitat exists within the permit area for the Eastern prairie fringed orchid, the applicant is not required to supply a Protection and Enhancement Plan for that species.

The applicant has updated the information supplied in the Indiana bat and northern long-eared bat Protection and Enhancement Plan with the 2013 version of the Guidelines. The Protection and Enhancement Plan supplied by the applicant meets all federal and state regulatory requirements currently in effect and becomes effective immediately upon issuance of this permit.

Comment: Information in the permit application indicates that the reclaimed area will include herbaceous wildlife habitat and will be seeded with a mixture of native and introduced species.

The Service recommends that the planting of any non-native, exotic, and invasive species be avoided to the extent possible.

The Service also recommends the incorporation of native forbs including milkweed in the seeding mix which will provide greater benefits to native pollinators and the monarch butterfly.

Response: The applicant has proposed the use of all native grass species for Wildlife Herbaceous post-mining land use (PMLU) areas and included a comprehensive list of native forbs to choose from at the time of reclamation to provide habitat for native pollinators. Non-native herbaceous species are proposed for Wildlife Woody PMLU areas to adequately control erosion and reduce competition in an attempt to enhance woody species growth. The applicant has supplied adequate justification for the use of these species in accordance with 62 Ill. Adm. Code Section 1817.111(c).

Comment: A previous letter was sent on September 15, 2016, regarding this application by this office and providing consultation for the Indiana bat and Northern long-eared bat. The information regarding avoidance and protective measures, provided by the Illinois Department of Natural Resources, Office of Mines and Minerals, were in accordance with the appropriate guidelines under the 1996 Biological Opinion. The 1996 Biological Opinion, including avoidance and protective measures for these bat species, are consistent with and covered under the 2016 Biological Opinion that became effective December 16, 2016, therefore the Incidental Take Authorization provided upon issuance of the permit findings for the Viper Mine Permit No. 438 and Significant Revision No. 9 to Permit No. 3 is valid and acceptable.

Response: The Department acknowledges the validation and final concurrence by the Service of the Incidental Take Authorization under the 2016 Biological Opinion.

Public Comments

An informal conference and public hearing regarding the application were held on February 25, 2016 and March 31, 2016, respectively, in the Christian Fellowship Center in Elkhart, Illinois.

Many of the comments were similar in nature. The primary issues addressed were:

- * Concern about effects of dust on neighboring land, animals, and people.
- * Concern about contamination of groundwater and Elkhart public water supply.
- * Concern about bonding and legacy costs of permitting actions.

* Concern about nearby nature preserves, migratory birds, and Bald Eagles.

Comment 1: Permit No. 438 is for an acreage of agricultural land purchased by the Mine and rezoned in 2014/2015 by the Logan County Board for a new coal ash slurry impoundment. Permit No. 3 was established in 1983 and is for the existing coal ash slurry impoundment in a different location on Mine property. Any revision application, such as No. 9, for permit No. 3 should be separate from new area permit (application) No. 438 for the following cited reasons:

- a. The application for New Permit No. 438 has yet to go through the inter-agency review process, completeness phase, and public participation.
- b. Revisions can only pertain to existing, already issued permits and the 438 permit is on a different location on mine property so cannot be part of a revision application.
- c. The 438 permit is for 282 acres which is a significant departure from incidental boundary revision approved acreages found in Department regulations.
- d. According to regulations a written request must be filed for departures from the permit that are not significant.

Response: The Department has determined that the applicant has met the appropriate permit and permit revision requirements of 62 Ill. Adm. Code 1773 and 1774, respectively. The application provides information on proposed changes to the currently approved Permit No. 3 area, some of which will facilitate the newly proposed Permit No. 438 area, hence the single application. The departure to Permit No. 3, which includes a slurry line, a change in post-mining land use/approved herbaceous species, and minor changes to the North Coal Refuse Disposal Facility to accommodate construction in the 438 area, is considered a significant revision. The permitting action for Permit No. 438 is a wholly new application and is not an incidental boundary revision. The changes to the existing permit and the proposed permit have gone through the statutorily required interagency review and public participation process.

Comment 2: Several commenters expressed concern that the applicant has not taken all possible steps to minimize adverse impacts to the environment or public health and safety.

Response: The Department has reviewed the application to ensure that the requirements of 62 Ill. Adm. Code 1700-1850 have been met, thereby insuring the statutorily required protections for the environment and public health and safety have been afforded.

Comment 3: Several commenters expressed concern regarding coal refuse/coal ash dust and potential effects on neighboring property, human health, and livestock health.

- a. The commenters requested information on what recourse they have to seek dust damage mitigation.
- b. One commenter asked if IDNR has the same 25 mph exemption to dust regulations as the IEPA.
- c. A commenter expressed concern regarding problems with dust causing foundering in horses and spontaneous abortions in cattle.
- d. A commenter expressed concern that grandchildren cannot play outside on windy days.
- e. A commenter expressed concern the environmental education program that was developed for the Nature Preserve and wetland area of our farm has been cancelled due to health concerns from the dust.

Response: The regulations found at 62 Ill. Adm. Code 1784.26 and 1817.95 require the application to contain a plan for fugitive dust control practices and stabilization of exposed surface areas to control air pollution caused by erosion. See Appendix A, modification question no. 8 requiring a comprehensive dust control plan, applicant response, and Part IV (8) of the application that discusses the fugitive dust control practices/plan including compaction of soil and refuse, water trucks employed in high traffic areas, water sprayers, a weather station, and other practices already in use at the active facility. The applicant has provided acceptable information to meet the pertinent regulations. The Department ensures that the approved dust suppression measures are carried out during routine field inspections.

The Illinois Environmental Protection Agency is responsible for regulation and enforcement of dust and air pollution issues (which includes the 25 mph exemption mentioned in the public comment above) that are beyond the scope and authority of the Department.

Comment 4: Several commenters asked to be informed of whether or not the mine continues operations at night and what the effects of construction, noise, lights, and dust might have on the neighboring community.

Response: The mine generally operates 24 hours per day. Noise, light, and dust pollution are beyond the regulatory scope and authority of the Department.

Comment 5: Several commenters expressed concern about the proximity of the new permit to the Elkhart public water well and potential contamination of the public water supply.

- a. A commenter asked who would notify the Village of Elkhart of an unsatisfactory groundwater test result in light of the fact that the mine's water test results are only available to the public through a FOIA request. The commenter also asked how much time passes between an unsatisfactory groundwater test result and notification to the public.
- b. Why would the IDNR-OMM not actively participate in an interagency effort with the IEPA and all agencies with jurisdiction to make sure that

the actions of Arch Coal, in reviewing Permit Application 438, is not allowed to place the community at continued risk and further contaminate the aquifers in question?

- c. If the goal is to remain dismissive on water quality issues, what can the Village of Elkhart do to increase our confidence in the IDNR-OMM and the mining operation?
- d. Will the Village of Elkhart be funded to acquire potable water from some other community if the PWS wells are lost and the source water becomes contaminated? Will the village be funded for bottled water?
- e. Will a full suite of heavy metals and all contaminants of concern be included as part of the groundwater monitoring protocol for Application Permit 438? If this sampling is done will the results be shared transparently with the Village of Elkhart and other water well users?
- f. If it is deemed that remediation is in order will the IDNR-OMM work with the IEPA, Illinois State Department of Public Health and the Village of Elkhart to find viable solutions that involve preserving and protecting drinking water resources?
- g. Will the IDNR-OMM work to find out if groundwater in the vicinity of Permit No. 3 and Permit Application No. 438 may already be contaminated?
- h. Aren't these monitoring wells intended to give notice of increased contamination in groundwater so that something can be done to protect human health and the environment? Why are the results not shared with the Village of Elkhart?

Response:

- a. There is no requirement for public notification of an "unsatisfactory" groundwater test result. The public can continue to obtain the information through the FOIA process as they desire, from the Department.
- b. The Department does work cooperatively with the Illinois EPA and other pertinent agencies regarding this, and all, permit application reviews.
- c. The Department is not dismissive of water quality issues. To the contrary, the regulatory program administered by IDNR-OMM directly addresses water quality issues and works in conjunction with IEPA to protect water quality in relation to coal mining activities.
- d. The Department required additional information concerning potential alternative water supplies in relation to the Village of Elkhart's well in the unlikely event the mining operations were to negatively impact the wells to the point that the source was not viable for use. (See Appendix A, modification question no. 49) 62 Ill. Adm. Code 1817.41(j) addresses water supply replacement requirements and will be implemented should the need arise.
- e. The applicant has collected the required list of sampling parameters for the installed groundwater monitoring wells. The results of the sampling are included in the application for Permit No. 438 and may also be obtained through a FOIA request.

- f. 62 Ill. Adm. Code 1817.41(j) addresses water supply replacement requirements and will be implemented should the need arise. This would include input and involvement of other appropriate agencies and entities to assure an acceptable plan is implemented to comply with this regulatory section.
- g. Background groundwater sampling has been conducted on the proposed mine expansion area. The results of this sampling are included in the application for Permit No. 438.
- h. The purpose of a monitoring well network or system is to alert the Department, the Illinois EPA and the company of possible increases in parameter levels in advance of such increases leaving the permit area. This allows the Department, the Illinois EPA and the company to implement investigations and/or reclamation activities to prevent off-permit increases in parameters of concern. The Village of Elkhart may request copies of groundwater data via the FOIA process through the Department.

Comment 6: Why is ICG considered a qualified water testing party, as they are strongly biased toward producing satisfactory test results?

Response: It is standard practice, in not only the mining industry, but in most all regulated industries, that companies self-sample groundwater and surface water.

Comment 7: Several commenters expressed concern regarding contamination of groundwater and surface water on neighboring private property.

- a. A commenter stated that the groundwater and surface water on her property has been tested and shows an increase in iron and manganese concentrations. If our wells become contaminated and the mine is bankrupt, what recourse do we have?
- b. What if we come up with contaminated surface water? What should – what would you recommend I do; get a third party that is impartial, have them test our water and then submit it to you, or will that do me no good at all?
- c. You said right now there is monitoring wells, groundwater wells. Where can neighbors receive information about those? Is the groundwater monitoring showing exceedances of maximum contaminates?
- d. Private wells are already showing increased numbers of heavy metals associated with mining operations. Comparative tests from several years ago to recent test results, show rising numbers of arsenic, barium, selenium, iron, chromium and manganese. These are linked to cancers, reproductive problems and neurological and respiratory illnesses. Increasing the contamination exposure to our aquifer by almost 300 additional acres of waste disposal spells disaster for our right to clean water. What town can survive without it?

Response:

- a. Water quality data collection is part and parcel to the continued operation of a coal mine throughout its life. The private data the commenter refers to has not been provided to the Department. Monitoring wells encircle the original permit area as well as the Permit 438 boundary. The wells continue to be sampled through time to detect changes in quality. Bond will not be released until the areas are fully reclaimed and a demonstration made that protection of surface water and groundwater has been effective. In the event of a company filing bankruptcy, the bond would remain in force to ensure reclamation. The Department would take all measures legally available at that time to correct any documented water quality impacts.
- b. If the commenter believes their water has been impacted, the Department has a Citizen's Complaint process that allows the commenter to contact the Department. It is then the Department's responsibility to investigate the complaint. All surface water that comes in contact with mine related disturbances passes through an NPDES outfall where it is monitored for quality. If a citizen local to the mine believes surface water is being contaminated downstream of the outfalls, then that citizen should file a request for state inspection pursuant to 62 Ill. Adm. Code 1840.15. The Department would then investigate and take all necessary action to resolve the allegations of mine facility related contamination including water sampling if deemed appropriate. A citizen always has the option of employing a third party to conduct any sampling on their property if they chose to do so.
- c. The commenter may, via a FOIA request, obtain copies of the groundwater monitoring data the Department has on file.
- d. This comment is duly noted by the Department.

Comment 8: Several commenters expressed concern that deterioration and potential failure of the coal ash slurry impoundment may cause a situation similar to the Flint, Michigan water supply emergency.

Response: The Department has reviewed the stability design of the proposed impounding structure, as have other agencies. The Department's review has demonstrated that all applicable regulatory and safety factor requirements have been met; therefore, the design is deemed acceptable. The stability design and the facility will also be inspected routinely by the Department. Inspection and oversight by other agencies is intended to ensure that safety to the public will not be jeopardized.

The Department has no opinion or experience with the situation in Flint, Michigan. This comment is beyond the purview of the Department.

Comment 9: Several commenters expressed concern regarding the liner and the cap for the proposed coarse refuse impounding structure disposal facility.

- a. what will happen when the 60 mil liner reaches its effective life span or if it should tear or rip, what is the repair plan if the liner fails, what other consequences are there besides groundwater contamination, and will the village be dependent on bottled water?
- b. A commenter asked if there has been a liner leak detection study conducted.
- c. A commenter asked why the top of the impoundment will not also be covered with an impermeable geotech liner and can that be required.
- d. The location of this permit is so risky that IDNR should require the mine to submit a modification to cover the top and top sides of this slurry impoundment with an HDPE and membrane system "impermeable liner" to slow the amount of water getting into the 'reclaimed' RDA.

Response:

- a. There are no known guarantees on the life of a synthetic high density polyethylene (HDPE) liner. Synthetic and clay liners are used under hazardous waste landfills, as they represent a well-accepted industry containment option. The liner is expected to last the entire life of the Refuse Disposal Area (RDA). The Department also includes a safety measure by requiring a long-term groundwater monitoring program to ensure protection of the public's potable water. Performance reports for synthetic and/or composite liners indicate a life of 20 to 200 years.

Per Appendix A, modification question no. 55, the applicant has provided a Quality Assurance/Quality Control Plan for the installation of the liner. Construction methods and testing procedures specified for the liner can be found in the provided Technical Specification Report within the application under Section Q: Flexible Membrane Liner (FML) System and the attachment to Specification Section Q: FML Construction Quality Assurance/Quality Control Plan. Any tears, holes/punctures, etc. will be repaired prior to the placement of material on the liner. The specifications for damage prevention and repair are under Section Q, Part IV: Construction Requirements (D) (5: Damage and Repairs).

The purpose of the HDPE liner is to retard migration of any toxic constituents to the groundwater. In regard to impoundment design, the liner has no adverse impact on the stability of the structure. As provided in Part IV (6)(H), the applicant, in the event of unforeseen adverse impacts to the groundwater, has committed to replacing the main Elkhart community water supply well. Per Appendix A, modification question no. 49, the applicant was required to provide a detailed discussion on the process that will be taken to identify and locate a suitable location for a replacement should it become necessary in the future. In addition, the existing backup Elkhart public water supply well can provide adequate supply to the community in the interim.

- b. No liner leak detection study can be done prior to actual construction; therefore, no study has been conducted. Per Appendix A, modification question no. 55, the applicant has provided a Quality Assurance/Quality Control Plan to address any damages that may occur to the liner prior to protective layer and refuse material placement. The specifications for damage prevention and repair during installation are under Section Q, Part IV: Construction Requirements (D) (5: Damage and Repairs). The Department finds the proposed Quality Assurance/Quality Control plan acceptable to achieve an acceptable ground water protection barrier.
- c. The purpose of the low-permeability clay cap is to shed precipitation and limit infiltration. The design is deemed acceptable by the Department to achieve the post reclamation goal of protecting surface and ground water.
- d. The purpose of the low-permeability clay cap is to shed precipitation and limit infiltration. The design of the low-permeability clay cap, for both the top and side slopes of the impounding structure, as part of the disposal facility's reclamation, is deemed acceptable by the Department to achieve the post-reclamation goal of protecting surface and ground water.

Comment 10: Several commenters expressed concern that the area has poor drainage, is prone to flooding and high ground saturation, and that the underlying materials are porous allowing travel of contaminants into groundwater. One commenter asked how a toxic waste dump can be safely located in an area that has historically been a significant drainage and wetland area.

Response: The comment is duly noted by the Department. See Appendix C for the Department's assessment of hydrologic impacts.

Comment 11: Several commenters expressed concern regarding the fact that the proposed permit area historically contained wetlands.

- a. Will the IDNR coordinate with the IEPA and the Army Corps of Engineers to review and comply with the requirements of the CWA before this permit can be approved? Will these concerns be included and reported as part of an interagency review and made available to the public?
- b. A commenter expressed concern that the application was mostly put together before the changes to the Clean Water Act in 2014/2015.

Response: See Appendix A, modification question no. 12, applicant response, and Part V (3)(B)(2) of the application which discusses the result of a consultation between the Army Corps of Engineers (the Corps) and the applicant. A determination by the Corps was made that the "farmed wetlands" located on site are non-jurisdictional and a Section 404 permit is not required.

The Department is required to notify the Corps of the application. The applicant is responsible for obtaining any required permits and/or sign offs from the Corps based on updates to the Clean Water Act that are applicable to wetlands.

Comment 12: A commenter expressed concern over the loss of prime farmland.

Response: Regulations found at 62 Ill. Adm. Code 1823.11 provide for exemptions for prime farmland for specific types of activities related to underground mines.

Comment 13: Several commenters expressed concern for the legacy costs of the coal mine, that due to unforeseen circumstances (i.e. failing coal market or change in ownership) the proposed impoundment would become an increasing liability over time.

Response: The Department requires a mine operator to maintain sufficient bond to reclaim the mine site (including the refuse disposal areas) regardless of market conditions or ownership changes pursuant to the requirements of 62 Ill. Adm. Code 1800.

Comment 14: Several commenters expressed concern about the long term adverse impacts to the nearby tributary to Lake Fork Creek that flows into Lincoln Lake.

Response: Lake Fork Creek will not receive any direct drainage from the proposed mining expansion operations. Lincoln Lake is approximately 7.5 miles northeast of the proposed mining expansion operations. Additionally, no direct drainage will report to the nearby unnamed tributary of Lake Fork Creek. All drainage leaving the mine site will pass through an approved NPDES discharge point and will be subject to the Illinois EPA's NPDES Permit standards for surface water quality.

Comment 15: Several commenters expressed concern regarding reclamation on the currently active impounding structure south of Township Road 600 N:

- a. Is there a performance contingency other than bond release to reclaim this area?
- b. Does IDNR have a timeline for reclamation of slurry impoundments?
- c. Why is there a new permit being considered when the reclamation of the south impoundment is so deficient with respect to the reclamation plan proposed in the 438 permit?
- d. What recourse will the public have when the north impoundment is well underway in operation and the south impoundment remains eroded, partially vegetated, and uncapped?
- e. How long can the mine claim the south impoundment is "in use" as a reason to delay reclamation after the north impoundment is "in use"?

Response: The refuse disposal area will require grading, cover with appropriate materials, establishment of the approved vegetation and demonstration of

reclamation performance standards pursuant to 62 Ill. Adm. Code 1817.116. The regulations stipulate the time frame for submitting plans for and then completion of the reclamation once the active use ceases. The refuse disposal facility located within the Permit No. 3 boundary is currently in use, therefore reclamation is not required at this time. The Department has the authority to determine when active use of such an impounding structure ceases. Should a member of the public believe a violation of the Act is occurring, that person may request a state inspection pursuant to 62 Ill. Adm. Code 1840.15.

Comment 16: The blueprint for the permit 438 impoundment does not show the abandoned homestead at the NW corner of the impoundment, street address 767 700N. Can it be inferred from this that the abandoned homestead site will actually be cleaned up by the time impoundment construction begins?

Is this a violation of the Banner Rules to remove the house before the permit is issued?

The Protection and Enhancement Plan for the Northern Long Eared Bat indicates the homestead site cannot be touched between March 31st and October 15th.

Response: The Department has granted the applicant permission to demolish the abandoned homestead in response to a letter sent to the mine dated February 22, 2016 from the Logan County Department of Health indicating that the abandoned house and outbuildings located within the boundary of Permit Application No. 438 are a potential violation of the Logan County Nuisance Ordinance.

Pursuant to 62 Adm. Ill. Code 1773.11, surface coal mining operations are not permitted on lands within the State unless a permit has been issued by the Department. Further, any action considered an activity conducted to facilitate the proposed mining operation is not permitted. However, based on potential issues with local ordinances, the Department does not consider removal of the abandoned house and outbuildings an activity to facilitate mining.

Rules implementing the Department's settlement agreement with the Office of the Attorney General (OAG) concerning the Banner court case are still being negotiated between the Department and the OAG. Even so, any rules promulgated pursuant to the Banner order would not relate to this issue.

The Protection and Enhancement Plan and assessment of potential habitat for threatened and endangered bat species does not include the structures at the homestead. The investigation of the abandoned structures was part of the archeology study and not a part of the bat habitat assessment. Further, summer roosting habitat for the Indiana bat and the northern long-eared bat is restricted to trees. Additionally, guidelines provided by the U.S. Fish and Wildlife Service regarding protection of these protected bat species do not require restrictions on

removal of buildings. Removal of the structures at the homestead will not affect habitat for the two protected bat species potentially located in the area.

Comment 17: Several commenters expressed concern regarding bonding issues.

- a. A commenter asked if Arch Coal is self-bonded at this facility and, if so, is there enough money to take care of the reclamation efforts?
- b. What criteria are used to determine in favor of the release of a reclamation bond and what criteria are used to deny the release of a reclamation bond?
- c. What percentage of the reclamation bond amount is cash and what financial instrument is the percentage that is not in cash?
- d. Several commenters expressed concern that the mine only has \$500,000.00 bond in place.

Response:

- a. This mine is not self-bonded, but rather has conventional surety bonds. The Department calculates bond amount to ensure the approved reclamation plans are met.
- b. Reclamation bonds are released or denied in accordance with the procedures and performance standards set for the in 62 Ill. Adm. Code 1800.40.
- c. Currently the applicant uses third party surety for bonding obligations. As of the date of this decision, the Department does not hold cash bond for the mine's reclamation liability.
- d. The present reclamation bond held by the Department for issued permits at this mine exceeds 16 million dollars. The applicant is incrementally bonding 148 acres of permit No. 438 at this time. The bond for this portion of permit No. 438 is over 5.7 million dollars.

Comment 18: Several commenters expressed concern regarding the Migratory Bird Treaty Act and the Bald Eagle Protection Act as they relate to the proposed permit. Commenters included members of the public, President and Director of the Eagle Nature Foundation, and Past President and Chair of the Bird Conservation Network.

- a. The application Permit No. 438 paperwork appears to be missing the Migratory Bird Treaty Act and the Bald Eagle Protection Act reviews. Has the IDNR obtained these two reviews (Migratory Bird Treaty Act and Bald Eagle Protection Act) for the new location for the Permit No. 438 North Coal Refuse Slurry Impoundment Disposal Facility? If so, we would like to see copies of them.
- b. Annually, Elkhart Hill is a stop for migratory birds and the Elkhart Historical Society even has bird watching events every spring. A bald eagle lives on Elkhart Hill, and a juvenile bald eagle has been seen on Elkhart Hill.
- c. How do they know about our bald eagle and juvenile bald eagle that has been seen on Elkhart Hill if no one talks to us?

- d. We have learned from the hearings that we have had with DNR for other potential mine sites, the DNR does not even know how to truly conduct the Bald Eagle Assessment of the area. They have not done so for other sites, violating their own rules.
- e. We are asking again tonight at this Public Hearing to get a list of the names of the individuals and agencies or organizations that did the Migratory Bird Treaty Act and the Bald Eagle Protection Act reviews for Permit No. 438 and to see these reviews.

Response:

- a. The United States Fish and Wildlife Service (USFWS) is the regulatory authority for the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The Department's statutory obligation to consult with the USFWS was met and comments received were incorporated into the modification requirements and this findings document.

The Department required supplemental information from the applicant regarding protection of migratory birds and birds protected under the Bald and Golden Eagle Protection Act, see Appendix A, modification question nos. 21-23 and applicant responses. The supplemental information required by modification is consistent with the Department's regulatory authority and permit application requirements.

- b. According to the USFWS website "Bald Eagle Nesting in the Upper Midwest – County Distribution" there are no known Bald Eagle nests located in Logan County (<http://www.fws.gov/midwest/eagle/conservation/baeacounties.html>). See Appendix A, modification question no. 22 and applicant response.
- c. The Department is required to consult the USFWS and the Office of Realty and Environmental Planning/Division of Ecosystems and Environment (OREP) during the permit application review process concerning state and federally protected species, those consultation obligations were met and comments received were incorporated into the modification requirements and this findings document.

The applicant is required to provide information in the application regarding protected species and determination of potential effects that is based on science. The Department does not have the authority to require the applicant to consult neighboring land owners during the application process.

- d. The Department has no regulatory obligation to complete Bald Eagle assessments of a permit application area. The Department uses data based on science that is compiled by the applicant and data collected by the USFWS and other Illinois Department of Natural Resources offices responsible for tracking protected species.

- e. The USFWS and OREP have been consulted regarding protected species. The applicant's consultant completed the sections of the application regarding protected species, names and credentials of those persons can be found in the application as required by 62 Ill. Adm. Code 1777.13. The Department wildlife technical staff reviewed the application and agency comments to determine if all regulatory requirements were met and a finding under Section 1773.15 (c) could be made. The public is free to contact the Department and other agencies that are a part of the permit review process.

Comment 19: Several commenters expressed concern that the new slurry impounding structure will be permanently onsite as part of the post-mining land use even though permanent waste impoundments are prohibited:

According to Application Permit No. 438, all indications suggest that the impoundment, from its construction to its reclamation, is intended to be permanent. High Hazard dam waste impoundments as part of the post-mining land use are prohibited and illegal.

The Department has never revealed a document that supersedes explicit, clear, mandatory, nondiscretionary SMCRA regulatory requirements, that include, but not limited to, the temporary design requirements of the Coal Mine Waste: Impounding Structure and a description of the removal of the Coal Mine Waste: Impounding Structure in the application's Part IV Operation Plan. The Office of Surface Mining explicitly concurs with this interpretation of the rule: "This provision also *explicitly* recognizes that impounding structures constructed of or impounding coal mine waste may not be retained permanently as part of the approved post mining land use" 48 FR 44006 (September 26, 1983).

Response: The approved reclamation plan calls for the disposal facility to be covered and not retained as an impounding structure under the regulations. The post-mining land use of the reclaimed disposal facility is proposed as herbaceous wildlife. Thus, pursuant to the regulatory program promulgated under the Surface Coal Mining Land Conservation and Reclamation Act, there is no impounding structure being "retained permanently as part of the post-mining land use" for this structure. No permanent impoundments are approved on the completed refuse pile.

Further, at the Citizens Coal Council "Ask the Director" meeting with the Office of Surface Mining Reclamation and Enforcement (OSMRE) on February 24, 2015, OSMRE responded to a similar question as follows:

Federal and state regulations do not allow coal mine waste impoundments (that are not incised) to remain. The site must be reclaimed to one of the post-mining land uses defined in 1701.5 under "Land Use" other than water.

OSMRE policy since at least 1995 is that once the impounding structure is permanently breached so that water flows freely across the reclaimed refuse and the crest of the dam is reduced to the elevation of the refuse surface, Regulatory Authorities need not view this as an impounding structure under 30 CFR 816.84(b)(1)/817.84.(b)(1). In Illinois, the water in most cases is removed via pumps as the cap progresses across the slurry area instead of breaching or cutting a notch in the embankment.

30 CFR 77.216 is the general rule governing water, slurry impoundments and impounding structures regulated by the Mine Safety Health Administration (MSHA). MSHA permits are required as part of the permitting process in order to obtain a SMCRA permit, but MSHA is a separate regulating entity. MSHA will decertify impoundments once the miners leave the facility. Once the impoundment is de-certified, MSHA inspections and the operator's impoundment examinations cease to be required.

The Illinois Department of Natural Resources, Office of Water Resources does classify the slurry impoundments as a Class I, II or III dam according to degree of threat to life and property in the event of a dam failure. Class I is similar to the Corps classification High Hazard Probability. This classification remains after they are dewatered and bond released by the Illinois Land Reclamation Division, therefore they would no longer fall under the purview of SMCRA. The Illinois Office of Water Resources will consider an impoundment and impoundment until the company can prove that material inside the impoundment is no longer flowable. In order for a company to determine if the material is no longer flowable, the company would have to drill through the cap/final cover and obtain representative samples that prove the material is solid or cannot liquefy and become flowable. This requirement by the Illinois Office of Water Resources falls outside what is required under SMCRA.

We do not see an inherent conflict between these three regulatory provisions as they are in place for different purposes under different laws.

<https://www.odocs.osmre.gov/>
Illinois, Evaluation Year 2015, Doc 2937

Comment 20: Several commenters expressed concern regarding the Arch Coal bankruptcy:

- a. Has the new Permit No. 438 North Coal Refuse Slurry Impoundment Disposal Facility been approved by the court and creditors committee? If so, we would like to see copies of this paperwork.
- b. When companies go bankrupt, what does the Department see as financial settlements?

- c. Does the Department have concerns that the bonds or any of the insurance monies could be considered as part of the assets of the mine? Are any of the reclamation funds at risk due to bankruptcy?
- d. In the past when the Department has had to use bond to clean up a site, has there been enough money to cover full reclamation?
- e. Do the taxpayers end up paying for it?

Response:

- a. The bankruptcy court is tasked with a very specific objective when a company files for protection under Chapter 11 of the Bankruptcy Code – to resolve the restructuring of debtor-creditor relations. The court’s scope of authority is limited under the Code and would not typically require involvement in regulatory permitting or enforcement actions, unless such actions would impact the reorganization process.

Here, the pending Permit No. 438 application for the Viper Mine had no impact on Arch Coal, Inc.’s or ICG Illinois, LLC’s efforts to emerge from bankruptcy as reorganized debtors. Therefore, neither the bankruptcy court nor the creditors’ committee had any reason to weigh in on this pending permit application.

- b. The commenter’s use of the term “financial settlements” is too broad in scope. In the event a permittee files for bankruptcy (whether Chapter 7 or 11), an automatic stay of certain proceedings or acts against the debtor-permittee or against the property in the bankruptcy estate is created. 11 U.S.C. § 362(a). The automatic stay is subject to exceptions. The Department’s response to Comment 20 is couched within the framework of the police or regulatory power exception to the automatic stay. 11 U.S.C. § 362(b)(4).

The police or regulatory power exception allows the Department to continue its enforcement of the Surface Coal Mining Land Conservation and Reclamation Act, 225 ILCS 720/1.01, et seq., and its regulations, against the debtor-permittee in bankruptcy. This means the Department may continue to prosecute pending enforcement cases and initiate new enforcement actions. Furthermore, it is generally recognized by debtor-permittees that they may not avoid their environmental reclamation obligations simply by filing for bankruptcy protection. While the unique challenges facing a particular debtor can lead to different solutions, the overriding goal of the Department in these cases is to ensure that the reclamation obligations are properly accounted and provided for in the plan of reorganization. In the event the Department is dissatisfied with the proposed treatment, it is entitled to object to confirmation of the plan, which if sustained could lead to dismissal of the bankruptcy or its conversion to a Chapter 7 liquidation. Due to this possibility, debtor-permittees frequently consult with the Department prior to seeking

confirmation of the plan to ensure the proposed treatment meets with Departmental approval.

- c. As specified in Section 9.3(a) of Arch's Fourth Amended Joint Plan of Reorganization and paragraph 73(a) of the corresponding Confirmation Order, "each obligation of a Debtor that is covered by a Surety Bond, including, but not limited to, obligations of the Debtors to various Governmental Units for reclamation of mines, are not being released, discharged, precluded or enjoined by the Plan or the Confirmation Order and shall remain obligations of the applicable Reorganized Debtors as of the Effective Date."

As a result, the completed reorganization of Arch and ICG did not affect the status of any of the existing surety bonds held by the Department to ensure reclamation obligations at the Viper Mine. These bonds are still in place in their respective full amounts and available through forfeiture to complete the necessary reclamation, in the event that such action by the Department is required.

- d./e. In the past, there have been few instances in which the forfeited bond amount was insufficient to complete the reclamation. Due to the proximity of the sites' location with respect to previously abandoned mine lands (AML) eligible for Title IV SMCRA AML grant funds, these areas have been or are in the process of being properly reclaimed. In no instance has taxpayer money been used to reclaim an insufficiently bonded site.

Comment 21: We are formally asking the IDNR to request that the PE who certified the application, Robert E. Snow [sic], attend the Public Hearing. The PE should attend the Public Hearing because he is the person who has taken full responsibility for the contents of the application.

We are asking if Mr. Snow is in attendance at this Public Hearing tonight, March 31, 2016. We are asking if representatives from the mine are here tonight.

An inspection of the Permit Application Permit No. 438 shows that the Engineering Certificate cannot be legitimately certified because the application is not in accordance with all applicable local, state and federal laws, rules and regulations, without the certifying Licensed Professional Engineer being subject to a complaint filed with the Illinois Department of Financial and Professional Regulation's Board of Licensed Professional Engineers.

Response: Mr. Snow did not attend the hearing, and the Department had no authority to require him to do so. Any individual wishing to file a complaint to the Illinois Department of Financial and Professional Regulation (IDFPR) may do so by contacting and following that agency's proper procedures. The comment has been forwarded to the applicant.

Comment 22: Regarding the proposed NPDES points: Both discharge points 012 and 013 are close the perimeter of the property boundary with little buffer. Where does discharge 013 report to?

Response: Both NPDES discharge points report to a Lake Fork Creek Tributary that eventually feeds into Lincoln Lake.

Comment 23: A commenter spoke about the herbaceous and woody wildlife post – mining land use areas and asked what the use of that is after closure of the mine, who is in charge of the area, who pays taxes, and if there is any concern for loss of property values.

Response: The post-mining land uses of herbaceous and woody wildlife are defined pursuant to 62 Ill. Adm. Code 1701 as “Fish and Wildlife Habitat”, land dedicated wholly or partially to the production, protection, or management of fish and wildlife. The land use after closure of the mine in these areas will function as food, cover, and reproduction habitat for various species of Illinois wildlife. The person(s) that own the land at any given time are responsible for the area and responsible for applicable taxes. Loss of property values is beyond the Department’s purview.

Comment 24: A commenter asked if new mine access roads connected to existing public roads are proposed in the 438 application.

Response: The applicant was asked in Appendix A, modification question no. 56 to specify and identify existing site entrances.

Comment 25: Several commenters along with the Illinois Nature Preserves Commission expressed concern about the protected natural areas that are in close proximity to the proposed mine expansion.

- a. The areas are generally known as Elkhart Hill and are an Illinois Natural Areas Inventory Site. The areas are known to contain a unique mesic upland forest, rare plants and trees, and serve as a migratory bird refuge. The areas are protected under the Illinois Natural Areas Preservation Act and adverse impacts are prohibited by law. How does the implementation of this permit guarantee protection of this property?
- b. In order to protect the unique ecosystem of Elkhart Hill, 136 acres of woods have been dedicated as the Elkhart Grove Forest Preserve. We are requesting that the Illinois Department of Conservation review the application for Permit No. 438. We are requesting a list of the "different agencies" and names of the individuals who reviewed the application for Permit No. 438 in regard to the Elkhart Grove Forest Preserve and a copy of these reviews.

Response:

- a. 62 Ill. Adm. Code 1700 through 1850 is intended to prevent impact from coal mining operations outside of the permit area. The application has undergone agency consultation requirement under Section 1773.12 and has met all regulatory requirements for issuance. Therefore, there is no reason to believe that the protected areas will be negatively impacted by the proposed operations.

The Office of Realty and Environmental Planning/Division of Ecosystems and Environment (OREP) has been consulted, pursuant to 17 Ill. Adm. Code Section 1075 regarding the application and its proximity to Illinois Natural Area Inventory (INAI) sites. The consultation was terminated and adverse effects are deemed unlikely.

In addition, the Department required supplemental information from the applicant regarding these areas, see Appendix A, modification question no. 11 and applicant response. The applicant provided information including distance from the permit area to these INAI sites, information about the separation of watersheds, and the potential for occurrence of threatened and endangered species.

- b. The Department consulted with OREP, as described above. The public is free to contact that office to obtain the names of the individuals who conducted the review.

Comment 26: Several commenters expressed concern that toxic pollution from coal ash builds up in exposed animals and that killing plants and animals leads to changes in wildlife concentrations and distributions and disrupts entire ecosystems.

Response: The Department is not aware of any scientific studies or documentation of chemicals from coal ash accumulating in animal tissues in toxic concentrations leading to death. Disturbances to plant communities are limited to row crop areas and associated fence rows. Wildlife habitat will increase in the area upon completion of reclamation.

Comment 27: Several commenters expressed concern regarding historic sites near the proposed permit boundary.

- a. What kind of reviews does the Department request from the Illinois Historic Preservation Commission and what kind of influence do they have on IDNR regarding the review and consideration of this permit?
- b. The historical review that's listed in the permit, as I read it, appears to be only on the actual site itself regarding just basically the homestead and the area there. It didn't really include much of the Elkhart Hill, the historical points of Elkhart.

- c. In the application paperwork, the Prairie Archaeology & Research work is dated October 2013. The IHPA stamp is dated 2/20/2014. It is signed and stamped "CONCUR" by IHPA on 2/24/2014. The OREP stamp in the permit application is 2/27/2014. Permit No. 438 application is dated Sept. 11, 2015. According to the permit application paperwork, then, this was all done prior to the application being submitted to the IDNR. How could it be, then, that the IHPA, as Mr. Fowler stated on February 25, 2016 "will be given a copy of the application" during the permitting process to "comment on the application of what's being proposed"?
- d. The review, compiled by Prairie Archaeology & Research in October, 2013 and titled "280-acre Viper Mine, Logan County, Illinois" notes on page two that no regional archaeologists were contacted. Michael Wiant, Illinois State Museum, Director of Dickson Mounds Museum, has done in-depth research regarding Native Americans in the Lake Fork area. The Viper Mine's proposed Coal Refuse Slurry Impoundment Disposal Facility is approximately one mile from the original, shallow Lake Fork. This area was heavily populated by Native Americans, including several burial mounds located between Elkhart and Mt. Pulaski along County Road 10 to the south. On page four, the review notes that "no additional archaeological or historical investigations are recommended for this project." However, no mention of the historic tourism sites, all of them located approximately one mile from the proposed Coal Refuse Slurry Impoundment Disposal Facility, are mentioned in the report.

We are asking that the review for the National Historic Preservation Act be updated (it's dated 2013) and completed before the application for Permit No. 438 can be reviewed by the IDNR.

Response:

- a. Cultural and Historical reports are done in conformance with the standards of the Illinois State Historic Resources Preservation Act. Report reviews are done by the IDNR staff archeologists and the Illinois Historic Preservation Agency, not the Illinois Historic Preservation Commission.
- b. Cultural and Historical reports are done for a specific project location. Cultural resources are only considered within the area of potential effect.
- c. The applicants are encouraged to have these reports submitted and reviews completed by the relevant agencies as part of the application completeness review process.
- d. The archeological contractor is a regional archeologist and has worked in the area for many years. The report is fully compliant with state preservation laws.

Comment 28: Several commenters expressed concern regarding the interagency review process.

- a. A commenter requested an interagency review to be completed now and not later as a proactive measure to protect groundwater, not as a reactive measure.
- b. The application for New Permit No. 438 has yet to go through the interagency review process, completeness phase, and public participation. It is not administratively complete.

Response: Public participation and interagency review run concurrently pursuant to the requirements of 62 Ill. Adm. Code 1773.13. The Department reviewed the application and determined it was administratively complete prior to the beginning of the formal review process.

Comment 29: A commenter asked what is going to replace coal, since the coal industry has fallen, and what are citizens going to do in the meantime?

Response: This comment is beyond the purview of the Department.

Comment 30: Has the timeline for the originally proposed four phases of construction changed?

It looks like construction on the walls on this facility will be ongoing over several decades, which means IDNR will give the mine the opportunity to have this impoundment "under construction" and not require seeding of the side walls for whatever amount of time the mine wants.

Response: The exact start date will be dependent on the company and other factors. Per the applicant's response in Part IV (7)(F)(1), "Impoundment development will be incrementally stabilized with vegetated soil. Each of the major Stage/Phase plan drawings contains a note under General Notes which states: Exterior slopes that are completed to final grades shall be reclaimed. Reclamation consists of the placement of a soil cap and topsoil cover in accordance with the project specifications and as shown on Sheet 51. Additionally, a timetable for reclamation of the facility is provided in Table V-1A included in Attachment H which represents an approximate date for reclamation of completed slopes on each major phase of the facility."

Comment 31: A commenter raised several questions regarding the three 100 foot road buffer variance requests:

- a. Is it usual for so many variances to be requested?
- b. Is the facility too large for the area?
- c. If there is overflow on the perimeter ditches or other problems such as sloughing, what does that meant [sic] to the local citizens with regard to road improvement costs and concerns for safety of school busses and ambulances?

- d. How does IDNR assess any safety concerns regarding the mine's request of the variances?
- e. Why is the Department not requiring the company to stay 100 feet away from the public right-of-way?

Response:

- a. Depending on the site specific size and location of a proposed mining operation, the number of requests for the 100-foot offset waiver can vary. The Department evaluates each variance request on a site specific basis. The Department has determined that the variances requested as part of this permitting action meet the exception requirements of 62 Ill. Adm. Code 1761.11(d).
- b. The Department has determined that the proposed mining operations comply with the applicable permit and performance standards; therefore, the design of the facility is not considered too large for the area.
- c. The technical design of the facility concerning surface water runoff control and stability has been reviewed and found acceptable. It is not anticipated that any overflow will occur for the regulatory required design precipitation event. Sloughing is also not anticipated based on the stability design and the facility will be inspected routinely by the Department. Inspection requirements and additional oversight by other agencies should ensure that safety to the motoring public will not be jeopardized. In the unlikely event the facility does not perform as designed, the Department will require the permittee to repair and/or replace any unforeseen impact(s) to the public road if they occur.
- d. The Department reviews each request for variance on a site specific basis to ensure that the public will not be adversely impacted by the proposed operations. The Department considers issues such as line-of-sight at intersections and disturbances to adjacent roads that might impact the motoring public. Soil berms have been incorporated as a buffer between the road and certain mining operations.
- e. The Department has determined that the variances requested as part of this permitting action meet the exception requirements of 62 Ill. Adm. Code 1761.11(d).

Comment 32: Several citizens expressed concern about the Emergency Action Plan related to the Office of Water Resources Dam Permit and information found within that permit.

Response: The Office of Water Resources permitting actions, including the Emergency Action Plan, are governed by statutes and regulations outside of the Department's regulatory jurisdiction.

Comment 33: Is it possible to get a list of names of the people that would be reviewing so I can give them information or ask them questions? What criteria are the agencies using to determine no negative impact on the resources around the mine and how do we find out what agencies review the permit?

Response: The list of agencies that the application has been forwarded to is provided in the Summary of the Public Participation Process section of the findings. The public is free to contact those agencies for a list of names of individuals who reviewed and commented on the application. The Department's criteria for reviewing a permit is governed by the State Act and other agencies would be obligated to follow their respective acts.

Comment 34: Several commenters expressed concern regarding ash disposal on site.

- a. Do I understand you are saying that only Viper Mine coal ash can go in a Viper Mine coal ash impoundment?
- b. If the mine stops producing coal, can they still dump coal ash on the permit property?
- c. What the difference is between coal combustion waste and coal combustion byproduct?
- d. Are there volume limits for dumping waste material at the Elkhart site? If so, what party regulates volume limits for dumping waste material at the Elkhart site? Fly ash has a Chemical Abstract Service ID #68131748. Are there other materials with a CAS ID number proposed to be incorporated in this impoundment? If so, what are they?

Response:

- a. The company is allowed to dispose of only those coal combustion materials that have received prior approval from the Department. Also, the company is not allowed to dispose of coal combustion materials from sources that do not purchase coal from the company.
- b. Pursuant to the Department's Land Reclamation Division Memorandum No. 95-8 and later clarified in Memorandum No. 95-9, the total amount of coal combustion waste a coal company is allowed to receive shall not exceed 35% of the total annual company coal sales. In other words, if the company is not selling coal they are not allowed to dispose of coal combustion wastes.
- c. Section 3.140 of the Environmental Protection Act (Act) defines a coal combustion waste as fly ash, bottom ash, slag, or flue gas or fluid bed boiler desulfurization by-products generated as a result of the combustion of coal. The Act, in Section 3.135 defines a coal combustion by-product as a coal combustion waste when used beneficially for a variety of applications, including mine subsidence, mine fire control, mine sealing and mine reclamation.

- d. As stated above, the company's disposal limit is restricted to 35% of the total annual company coal sales. The company is required to report to the Department the quantity of coal combustion waste from each source as well as the total quantity of coal combustion waste received at the disposal site on a quarterly basis.

Comment 35: Is there an opportunity for the public to have a hearing with the IEPA as well? How do we know when the IEPA has gotten to that point?

Response: This comment is beyond the purview of the Department. The Illinois EPA's permitting process runs on its own timelines. Please contact the Illinois EPA with your concerns.

Comment 36: It seems to me that what's happening is if this is approved and the concerns that I have in particular to our property and concerns that I have to the public health are not being addressed due to exemptions or exceptions or regulations that are too loose, then at any given time going forward if the back pond which is the only source of water for all wildlife becomes contaminated, if the health of our citizens is compromised by dust, fly ash, dust and whatnot, if our well waters begin to become contaminated, basically what I'm hearing -- please correct me if I am wrong -- other than suing the mine itself, we have no recourse through IDNR or IEPA because their regulations just don't protect us; am I wrong?

Response: The Department is vested with the full powers and authority to administer the provisions of the Surface Coal Mining Land Conservation and Reclamation Act, 225 ILCS 720, and its regulations. The Illinois EPA is vested with the full powers and authority to administer, among other statutes, the provisions of the Illinois Environmental Protection Act, 415 ILCS 5, and its regulations. Both programs provide regulatory enforcement mechanisms and procedures for Illinois citizens.

Comment 37: The OREP (the Office of Realty and Environmental Planning) is under the IDNR itself, so we question if the Federal Fish and Wildlife Service has had an opportunity to review Permit No. 438.

Response: Pursuant to 62 Ill. Adm. Code 1773.12, the application was forwarded to the U.S. Fish and Wildlife Service for review and comment on January 11, 2016. Comments were received on March 3, 2016 and September 15, 2016. These comments and their final concurrence of February 6, 2017, were forwarded to the applicant and County Clerk, have been considered by the Department and are addressed in the agency comments section of this Appendix B.

Comment 38: A commenter expressed concern regarding the northern long eared bat and potential habitat in the proposed permit area.

- a. We are asking to see the required Protection and Enhancement Plan (PEP).
- b. Their report also states no trees be cleared between March 31 - October 15 at the house and fence rows (7 acres). How will the IDNR enforce this

Endangered Species moratorium and monitor that no trees be cleared on the 7 acres around the house and fence rows during these dates?

Response:

- a. The Protection and Enhancement Plan (PEP) for the northern long eared bat and the Indiana bat is available to the public in Appendix G of the application that is on file at the Logan County Courthouse and on the Department website.
- b. The Department inspector will conduct inspections at least once per month and will monitor adherence to the tree clearing restriction dates outlined in the approved permit. Enforcement actions will be taken by the Department should the tree clearing restriction dates designed to protect threatened and endangered species be violated. Further, the applicant is aware that the tree clearing dates outlined in the approved PEP are subject to regulatory enforcement.

Comment 39: Several commenters expressed concern regarding Dam Permit #DS2007034 dated March 8, 2007 for the Viper Mine Slurry impoundment, a Class I high hazard potential dam in the watershed of a tributary to Lake Fork.

- a. According to the permit conditions, #11 states that "In issuing this permit, the Department does not ensure the adequacy of the design or structural strength of the structure or improvement." At the Informal Conference we asked, "If the IDNR does not do this, then who does? If it is not the IDNR, then we are requesting the name(s) of those persons or entities responsible." At the Informal Conference Mr. Barkley said: That's not correct. We do. Our agency does deal with stability of impounding structures in our permitting process..." Then why does the dam permit #11 state that "In issuing this permit, the Department does not ensure the adequacy of the design or structural strength of the structure or improvement"? We are requesting that this be corrected in the dam permit or whoever is responsible be noted.
- b. The Dam Permit contains an error with the Township, Section and Range reporting. Today, at the Public Hearing, we are requesting again that this error be corrected and questioning if this will be corrected.
- c. At this Public Hearing, we are requesting verification from the IDNR that the inundation map and EAP have been updated for the new proposed "North Coal Refuse Slurry Impoundment Disposal Facility" and that this information is made available for review by the Village of Elkhart President. The current inundation map is outdated, in fact it appears to be colored with colored pencil. How can the IDNR approve this permit not knowing what the consequences of dam failure to the Village of Elkhart's water supply and residents will be?

Also, where is the dam permit for the south perimeter dam that is currently being constructed? How can there be only one dam permit for multiple dams? If this is the responsibility of the Water Resources unit, we would like full disclosure as per the Banner Rules emphasis on transparency between the IDNR and the public.

- d. It was determined that Elkhart's primary PWS well is in the path of inundation and that fact should be added to the response plan immediately. It was estimated that 10 feet of ash slurry waste could cover the PWS wellhead in the event of dam failure.

Why did this information need to be ferreted out in this way? Is there some good reason that for the last 30+ years Elkhart has not been made aware of the potential inundation hazard to their water supply under existing Permit No. 3? We want to know the inundation risk(s) under the proposed permit application No. 438.

Response:

- a. The commenter is confusing two different regulatory programs. The "dam permit #11 condition" is part of the Department's Office of Water Resources (OWR) permit and is not part of this permitting action made by the Department's Office of Mines and Minerals (OMM). Although the Department is a single state agency, it administers and enforces dozens of statutes, with each statute vesting the Department with specific regulatory authority. The above comment relates to permitting actions administered by OWR, pursuant regulations implementing the Rivers, Lakes, and Streams Act, 615 ILCS 5. As such, the comment has been forwarded to appropriate personnel in OWR for their consideration, as applicable.
- b. Please refer to the response "a." above concerning OWR. The Department has found no error regarding the Township, Section and Range in Permit No. 438/Revision No. 9 to Permit No. 3. The comment has been forwarded to appropriate personnel in OWR for their consideration, as applicable.
- c. Please refer to the response "a." above concerning OWR. The rules and regulations being addressed under this permitting action (Permit No. 438/Revision No. 9 to Permit No. 3) have no requirements concerning the issues raised in this comment.

The North Coarse Refuse Area (NCRA) is an approved structure under a previous permitting action. This approved structure has now been incorporated into the overall design of the coarse refuse and slurry disposal facility being approved under this action. The comment has been forwarded to appropriate personnel in OWR for their consideration, as applicable.

Rules implementing the Department's settlement agreement with the Office of the Attorney General (OAG) concerning the Banner court case are still being negotiated between the Department and the OAG. Even so, the Banner Order only addresses the permitting process in terms of the Department's administration of the Surface Coal Mining Land Conservation and Reclamation Act, 225 ILCS 720, through OMM's Land Reclamation Division.

- d. These comments have been forwarded to appropriate personnel in the Office of Water Resources for their consideration, as applicable.

Comment 40: It is my understanding that many monitoring wells on the proposed Permit Application 438 location are currently installed and being monitored. This pre-permit work appears to disregard the Banner Rules. Such pre-permit work by the mine appears to be monitoring prior to the public notification of the proposed permit application and seems to benefit the permittee by establishing perimeter monitoring for the new impoundment 438 site prior to approval.

Response: Rules implementing the Department's settlement agreement with the Office of the Attorney General (OAG) concerning the Banner court case are still being negotiated between the Department and the OAG. Even so, any rules promulgated pursuant to the Banner Order would not relate to an applicant's actions to install groundwater monitoring wells or monitor surface water conditions prior to Department approval. To the contrary, this "pre-permit work" is customary and necessary for any facility to establish background levels for quality and quantity of groundwater and surface water. The regulations require it. The installation of groundwater monitoring wells or the monitoring of surface water does not guarantee the issuance of a permit from the Department. It is merely a step in the application process to provide the Department with the required baseline information.

Comment 41: The Village of Elkhart is requesting a copy of any modifications made to the Illinois Department of Natural Resources Permit No. 3 (Significant Revision 9) and New Permit No. 438 prior to the IDNR deeming completion and approval. As per the Banner Rules, we are requesting that full disclosure and transparency be part of this permit process. Will the modifications be available on the website?

Response: The regulations at 62 Ill. Adm. Code 1773.13 and 1773.14 establish the time period for public review and comment of the application. Those time periods expire prior to the Department issuing its decision to grant, deny or require modification of the application pursuant to Section 1773.15 (a)(1). In terms of the permit application review process (pre-permit decision), the Banner Order only requires that the Department propose an amendment to its rules to allow free access to the transcript of any public hearing conducted under Section 2.04 of the Surface Coal Mining Land Conservation and Reclamation Act, 225 ILCS 720/2.04. Rules implementing the Department's settlement agreement with the Office of the Attorney General (OAG) concerning the Banner court case are still

being negotiated between the Department and the OAG. Even so, the applicant's modification responses have always been publicly available for review pursuant to FOIA and at the local county courthouse. The Department is revising its protocols to make the required modifications available on the Department's website. However, the regulations do not provide an opportunity for the public to comment on the required modifications.

Comment 42: The Village of Elkhart will contest the IDNR's decision should the Village or Villagers deem to be adversely affected. We are requesting that we be provided with any final decisions regarding this permit.

Response: Any person(s) whom requested notification at the informal conference, at the public hearing, or by letter will be notified of the Department's final decision to issue or deny the permit. A copy of the official Department findings will be mailed to those individuals.

Comment 43: According to the Banner Rules, during the intervening time from the permit application filing, mine companies should not continue obtaining coal rights, road vacations, or other steps to establish the mine. However, at the Informal Conference Mr. Barkley stated [what is currently being built in the area already approved on the north side of the road is an integral part of construction for the proposed 438 permit]. Doesn't this work include work for Permit No. 3 (Significant Revision 9) and New Permit No. 438? If so, how can it be that the southern side is being built and will be used as the dam for Permit No. 438 and not be in violation of the Banner Rules? Have any road or other variances been requested prior to the approval of this application?

Response: For clarification, rules implementing the Department's settlement agreement with the Office of the Attorney General (OAG) concerning the Banner court case are still being negotiated between the Department and the OAG.

With that said, the terms of the Banner Order do not speak to the issues identified in this comment.

The Banner Order, as entered on March 24, 2014, provides that:

1. The Department will propose a rule change to provide that notice of the mining permit application will be made up filing of the application, prior to determination that the application is administratively complete.
2. The Department will propose a rule change to provide that the applicant shall pay the statutory per acre fee upon application.
3. The Department will propose an amendment to its rule on informal hearings that will require the permit applicant to appear at the public hearing provided for in Section 1773.14, and to be prepared to

answer questions relating to the written objections filed as to a permit application, upon examination by any person who has requested a hearing or by the hearing officer. In addition, the proposed Section 1773.14 will provide that the hearing officer shall accept and consider such evidence, including testimony, as well as comment, if requested by a party.

4. The Department shall propose a rule change to allow free access to the transcript of any such permit hearing.
5. The Department's Office of Mines and Minerals will timely submit the permit application to the Department's Division of Ecosystems and Environment during preliminary review of any mining permit application. The Department shall not deem any permit application administratively complete until the Department's Division of Ecosystems and Environment completes its impact assessment. Any written finding by the Department pursuant thereto shall be made available upon request to all parties prior to any public hearing provided for in Section 1773.14.
6. The Department will not request any pre-hearing conference; will timely commence any hearing to review a final permit action; and will make available the administrative record of decision regarding the review and approval of the permit application.
7. The Department will not participate as an adversarial party in permit review proceedings. The Department will appear as a necessary nominal party, and shall be available at the request of the hearing officer, or any party, to provide testimony or evidence in order to develop a clear and complete record, including explanation of the rationale for Department actions, and may where appropriate act to clarify the proceedings or correct the record.
8. The Department will not, in ordinary course of permit review proceedings, file motions to dismiss petitions or hearing requests on the grounds of failure to state a cause of action, lack of legal standing and pleading defects, nor object to reasonable motions to amend the petition or hearing requests filed before the hearing officer.
9. The Department will allow free access to the transcript of any hearing conducted under Section 2.11(c) of the Surface Coal Mining Land Conservation and Reclamation Act, 225 ILCS 720/2.11(c).
10. The Department will propose amendments to its rules to reserve final decision to the Director of the Department, rather than to the

hearing officer. The Department will timely issue a final decision after completion of any permit review proceeding.

Addressing the comment, coal refuse disposal facilities are commonly expanded through different permitting actions through time. Each time a refuse area is expanded, either laterally or vertically, all relevant changes in design considerations must be incorporated to assure the continued compliant operation of the facility.

Concerning the question of previous requests for exceptions to the 100 foot buffer zone to public roads, the permittee has requested and received approval for exceptions related to Permit No. 3 prior to the approval of this application.

Comment 44: We are requesting that the applicant be required to file for a new and an updated NPDES Permit based on the intended activities expressed in the IDNR application. We are asking that the IEPA review the Permit No. 438 application and a new NPDES for the new Permit No. 438 impoundment to protect the Village of Elkhart and surrounding communities. We will be working with Barb Lieberoff, Community Relations Coordinator for the IEPA to request a hearing with the IEPA for our concerns about this permit and for the NPDES.

Response: This comment has been forwarded to applicant.

Comment 45: The likelihood of contaminant transfer from the ground surface to the Pearl Aquifer and the contaminant transfer between the Pearl Aquifer and the deeper pre-Illinois age aquifer (called the Kansan) in the report was refuted on the basis of the applicant's own findings. The near surface position of the Pearl Aquifer and its direct contact with the deeper aquifer eliminates any confidence in groundwater protection through natural geologic confinement.

Will these technical discrepancies (separation between the aquifers and the presence of a natural aquitard) be addressed by the IDNR-OMM in their comments? If not, or if they will just be forwarded to another agency, will the concerns be addressed at some other forum?

Response: See Appendix A, modification question no. 36 and the applicant's response.

Comment 46: Artesian conditions exist in the wells at the northern part of the proposed Permit 438 site. This upwelling of groundwater from the Pearl Formation must be managed during construction of the impoundment and its retaining dam structures. It would seem intuitive that this free flowing groundwater, used in area wells for drinking, would exclude this site for use as a Coal Combustion Waste landfill...yet the permittee plans to incorporate this nuisance water into the operation, somehow pumping and mixing it with makeup water for use at their processing plant.

How can this plan be acceptable? Will there be any attempt made to explain why this large scale "mining" then wasting of groundwater should be allowed?

Response: See Appendix A, modification question no. 40 and the applicant's response.

Comment 47: [There have been] apparent failures of the existing dam from Google Earth photos. Viper mine had to know about this deterioration because according to observation and air photos it appears that many loads of CCW were used to fill and cover over the entire perimeter of the dam.

Were these repairs made with engineering controls in place? Would the same methods be used to patch and repair dam failures for proposed Permit No. 438?

Response: Any repairs and modifications to the aforementioned disposal facility are not part of this permitting action. The Department is unaware of the occurrence of any failures that necessitated repairs to the existing facility other than routine maintenance and grading to maintain appropriate design specifications. The use of CCW materials is approved as part of the current operations plan and design.

Incorporation of CCW material is also part of the operation and design for the Permit No. 438/Revision No. 9 to Permit No. 3 refuse disposal area expansion. Similar to all coal refuse disposal facilities, routine maintenance and grading will be necessary to maintain appropriate design specifications.

Comment 48: A commenter discussed a FOIA request dated October 2105 for groundwater monitoring data from the existing permit 3. Only two (iron and manganese) of the contaminants of concern were reported and exceedances [sic] of maximum contaminant levels of these two were documented several hundred times. The commenter asked why the Village of Elkhart was not notified and why the FOIA request did not contain all the contaminants of concern that are required for testing.

The commenter also expressed concern that, when the correct information was sent to him the data showed samples that tested above MCLs and the full suite of required metals were not tested. Future sampling for all Viper Mine monitoring wells and production wells should include the full suite of heavy metals (Ground Metals - IL1070150), Inorganic Chemicals, and Radionuclide (RAD) findings. Reports should be made immediately available to the village.

Response: The historic and current groundwater monitoring program has been reviewed and approved by both this Department and the Illinois EPA. The "MCL's" are not the applicable standards to which the groundwater is compared. When the Department conducts reviews of the groundwater monitoring data, this data is compared to the applicable Groundwater Quality Standards. The list of parameters required to be sampled is also reviewed and approved by the Department and the Illinois EPA.

Upon learning of this issue during the public participation process for this application, the Department determined that the response to the original FOIA request inadvertently contained groundwater monitoring data from the wrong mine. The Department has since provided the appropriate information to the FOIA requester.

Comment 49: A commenter discussed that legislation was passed to protect the Mahomet Aquifer and that it is her understanding that this is a tributary to the Mahomet. The question was raised as to who is responsible for protecting the Mahomet Aquifer and are these entities part of this permit?

Response: The Mahomet Aquifer is a regional bedrock aquifer that extends across parts of several counties, including the northern portion of Logan County. The proposed expansion of the Viper Mine is located in the southern portion of Logan County, approximately 9.5 miles south of the mapped extent of the Mahomet Aquifer. The proposed activities and operations of the mine expansion will have no impact on the Mahomet Aquifer.

Comment 50: A commenter expressed concern regarding economic loss due to the loss of tourism.

- a. The area where the impoundment will go is a designated Greenway, and scenic byway.
- b. The view of Elkhart hill will be restricted by the impoundment.
- c. Dust and construction will reduce tourism in the Elkhart area.

Response: These comments are outside of the Department's regulatory authority. In regards to dust, please see the Department's response to comment no. 3 above.

Comment 51: A commenter asked what the Department means when it says "we do not want them to put soil on the RDA before the structure is complete because it will contaminate the soil".

Response: The Department was attempting to clarify that the reclamation process is intended to best utilize the cover materials and to ensure that refuse wouldn't be mixed with the soil as the reclamation process was unfolding.

Comment 52: Why is Lisa Madigan suing five mines south of here? She is suing them for a total of 98 million dollars.

Response: This comment is not relevant to the application at hand.

Comment 53: The hydrology and geologic data and information in the application is incomplete and inaccurate in violation of 62 Ill. Admin. Code 1773.15 (c) (1) and 62 Ill. Admin. Code 1777.15 (b) regulations, including 62 Ill. Admin. Code 1783.11 General Requirements and 62 Ill. Ad min. Code 1783.25 (a). The significance of the existing pearl sand aquifer to the area and the existing public water well

supply for the village of Elkhart lack adequate mapping and underground information showing the area from which the Elkhart well draws and the underground geologic layers between the Elkhart well and the new permits. Mapping showing the location and extent of subsurface water in the proposed permit areas including seasonal differences of head in the local aquifer does not appear to be included. These issues are of prime importance since the front line responsibility is on your office to insure that complete information, as required by the regulations, is provided in the permit application, and that your office do a complete study of the impacts of the proposed permits.

Response: See Appendix A, modification question no. 33 and the applicant's response.

Comment 54: When finished, this new coal slurry impoundment will cover 187 acres in the north east corner of the property framed by public roads 800 E and 700 N and with a top wall height of 105 feet above ground surface (with ground surface at elevation 575 and crest of refuse walls will be 680). The interior fine coal refuse will go to 672. The average bottom diameter at completion is stated in the application to be 2000 feet. This is a massive change to the existing land formation and makes coal mining regulations about returning land to approximate original contour mean nothing.

Response: The proposed plan to create and reclaim the above grade slurry impounding structure disposal facility is in compliance with the regulations. The federal Office of Surface Mining has determined that waste disposal areas are not subject to approximate original contour regulations.

Comment 55: A commenter expressed concern regarding a 1984 document "Easement Agreement Water Rights" between the mine and the Village of Elkhart. The commenter stated that this document appears to give Viper Mine all rights to deplete the Village water supply and/or choose to contaminate it with no legal accountability. The commenter feels the agreement was a violation of the Illinois Environmental Protection Act.

We now believe that we were deceived in thinking we had no legal remedy or right to protest the rezoning, and that the Village wrongly thought it was defenseless against the County's zoning decision for the new impoundment.

Response: The Department has no statutory authority to enforce the Illinois Environmental Protection Act and cannot comment on zoning issues.

Comment 56: A commenter stated that the Department should require an immediate and ongoing reclamation plan that includes the following:

- a. Require a design for the regeneration of damaged landscape by planting appropriate, approved vegetation as the pile builds, not after the pond is full.

- b. Force the start of restoration for the existing embankment now, since the two permits are linked.
- c. Force the purchase of additional bonds to cover the cost of any possible clean up in the case of a highly unlikely overflow that contaminates the embankments.

Response: The embankment within the newly proposed permit area is proposed to be reclaimed concurrently with embankment development. The existing refuse disposal areas within Permit No. 3 are currently in use therefore reclamation is not required at this time, additionally concurrent reclamation is not part of the approved Permit No. 3. The Department calculates bonds to ensure the approved reclamation is achieved pursuant to 62 Ill. Adm. Code 1800.14. The Department reevaluates bond at least every two and a half years and may require additional bonds be posted, if necessary.

Comment 57: Several commenters expressed concerns of decreasing property values and marketability on neighboring land due to the existence of the mine.

Response: These comments are outside of the Department's purview.

Comment 58: A commenter expressed concern that he was quoted in the Informal Conference transcript as saying the word containment instead of contaminant and requests that the transcript be edited.

Response: The Department acknowledges that the comment, as transcribed on page 88, line no. 19 of the February 25, 2016, Informal Conference transcript should read "contaminant" instead of "containment."

APPENDIX C

ASSESSMENT AND FINDINGS OF PROBABLE CUMULATIVE HYDROLOGIC IMPACTS

ICG Illinois, LLC, Viper Mine
Application for Permit No. 438
And Significant Revision No. 9 to Permit No. 3
And Permit No. 154 and Revision Nos. 1 to Permit No. 154
And Revision Nos. 1, 2, 3, 4, 5, 6, 7, and 8 to Permit No. 3
Assessment and Findings of Probable Cumulative Hydrologic Impacts

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APPENDIX C

**ICG Illinois, LLC, Viper Mine
Application for Permit No. 438
And Significant Revision No. 9 to Permit No. 3
And Permit No. 154 and Revision Nos. 1 to Permit No. 154
And Revision Nos. 1, 2, 3, 4, 5, 6, 7, and 8 to Permit No. 3
Assessment and Findings of Probable Cumulative Hydrologic Impacts**

ICG Illinois, LLC (hereinafter referred to as “permittee” or “applicant” as applicable) was required to submit a determination of probable hydrologic consequences of the proposed mining and reclamation operations, both on and off the permit area, pursuant to 62 Ill. Adm. Code 1784.14(e) for underground mines.

Pursuant to 62 Ill. Adm. Code 1773.15(c) (5), the Department must make an assessment of the probable cumulative impacts of all anticipated coal mining on the hydrologic balance in the cumulative impact area, in accordance with 62 Ill. Adm. Code 1784.14(f), and find in writing that the proposed operation has been designed to prevent material damage to the hydrologic balance outside the permit area.

The following assessment and findings are intended to fulfill the above requirements.

I. GENERAL INFORMATION

A. Historical Coal Mines (ISGS)

There are no previous coal mining operations located upstream/upgradient of the existing Viper Mine, nor of the proposed permit area. The nearest historic mining operation was located approximately eight miles to the southwest of the Viper Mine.

B. Active Coal Mines – Viper Mine (1983-current)

1. Permit No. 3 (issued 1983)

The original Viper Mine permit (Permit No. 3) was issued for an underground coal mining operation consisting of approximately 654 acres for use as surface support facilities. The surface support facilities include a coal preparation plant, reclaim tunnels, parking lots, access roads, drainage control structures, office buildings, changing rooms, assembly rooms, warehousing facilities, storage facilities, elevator facilities, ventilation facilities, refuse disposal areas, overland conveyors, screens, crusher, power distribution facilities, power lines, water lines, loadout facilities, stockpile areas and other associated facilities. The permittee is extracting the Springfield No. 5 Coal Seam at a depth ranging from 270 to 300 vertical feet from the surface, utilizing room and pillar mining methods within the approximate 60,900 acres of shadow area. The areas utilizing room and pillar mining are designed to prevent subsidence based upon the geology and engineering design of the coal pillars.

To date, the Department has issued nine (9) Incidental Boundary Revisions (IBR’s) and eighty-nine (89) Insignificant Permit Revisions (IPR’s) for this facility pursuant to 62 Ill. Adm. Code

1774.13. These changes have resulted in the increase of the Permit No. 3 area by 21.21 acres. These approved changes were for a variety of items, including the construction of an outfall receiving ditch, an access road and power substation and an overland conveyor belt. Of the nine IBR's, six were IBR's for shadow area. Approximately 120 acres of shadow area has been added via these IBR's.

2. Permit No. 3, Significant Revision No. 1 (issued 1985)

Significant Revision No. 1 to Permit No. 3 modified the previously approved sediment pond design.

3. Permit No. 3, Significant Revision No. 1 (issued 1987)

Significant Revision No. 2 to Permit No. 3 added shadow area for additional room and pillar mining. No other changes to the existing permit were proposed or approved.

4. Permit No. 3, Significant Revision No. 3 (issued 1988)

Significant Revision No. 3 to Permit No. 3 added shadow area for additional room and pillar mining. No other changes to the existing permit were proposed or approved.

5. Permit No. 3, Significant Revision No. 4 (issued 1993)

Significant Revision No. 4 to Permit No. 3 approved the mixing of coal combustion waste (CCW) ash with the coal refuse for disposal in the existing new refuse disposal area.

6. Permit No. 3, Significant Revision No. 5 (issued 1991)

Significant Revision No. 5 to Permit No. 3 added shadow area for additional room and pillar mining. No other changes to the existing permit were proposed or approved.

7. Permit No. 3, Significant Revision No. 6 (issued 1996)

Significant Revision No. 6 to Permit No. 3 added shadow area for additional room and pillar mining. No other changes to the existing permit were proposed or approved.

8. Permit No. 3, Significant Revision No. 7 (issued 1999)

Significant Revision No. 7 to Permit No. 3 approved the disposal of CCW within the existing permit area. Approximately 75 acres were approved for CCW disposal, with an additional approximately 17 acres utilized as support areas and soil storage areas.

9. Permit No. 3, Significant Revision No. 8 (issued 2009)

Significant Revision No. 8 to Permit No. 3 added shadow area for additional room and pillar mining. No other changes to the existing permit were proposed or approved.

10. Permit No. 154 (issued 1985)

Permit No. 154 was issued to add 78.3 acres to expand the existing refuse disposal area in Permit No. 3. No additional underground mining (shadow area) was proposed or approved via this permit.

11. Permit No. 154, Significant Revision No. 1 (issued 1993)

Significant Revision No. 1 to Permit No. 154 approved the mixing of coal combustion waste (CCW) ash with the coal refuse for disposal in the existing new refuse disposal area. This was approved simultaneously with Significant Revision No. 4 to Permit No. 3.

12. Permit No. 322 (issued 1998)

Permit No. 322 was issued as a Minor Underground Facility (MUF) to allow for the development of a new underground portal (access) location and to allow for additional underground ventilation. The construction of an office/changehouse building and supply storage areas was also approved. This permit area is approximately 26 acres in size.

13. Permit No. 391 (issued 2008)

Permit No. 391 was issued to allow for the development of a new underground portal location as well as for coal stockpile storage and the development of an overland conveyor belt to move the raw coal from this area back to the preparation plant area of Permit No. 3. This permit area is approximately 112 acres in size.

14. Permit Application No. 438 and Application for Significant Revision No. 9 to Permit No. 3

The permittee has submitted an application for an additional refuse disposal area. The area for proposed Permit Application No. 438 consists of approximately 282 acres which will be used almost exclusively for disposal of coarse refuse mixed with coal combustion waste (CCW) materials and fine coal refuse. Permit Application No. 438 is located directly north of the existing Permit No. 3 area and will be known as the North Coal Refuse Slurry Impoundment. The Application for Significant Revision No. 9 to Permit No. 3 is to allow the new refuse disposal area to be tied into the existing refuse disposal area.

The Permit Application No. 438 area is located in Section 17 of Township 18 North, Range 3 West of Logan County, Illinois. The site is surrounded by a mixture of privately owned rural properties and/or agricultural lands. Some forested areas exists in the vicinity as well.

II. PROBABLE CUMULATIVE HYDROLOGIC IMPACT ASSESSMENT (CHIA) OF APPLICATION NO. 438

A. Cumulative Impact Area (CIA) Evaluation

For purposes of a Cumulative Hydrologic Impact Assessment (CHIA), the Cumulative Impact Area (CIA) is defined as follows:

The area, including the permit area, within which impacts resulting from the proposed operation may interact with the impacts of all anticipated mining on surface and groundwater systems. Anticipated mining shall include, at a minimum, the entire projected lives through bond release of:

the proposed operation;

all existing operations;

any operation for which a permit application has been submitted to the Department.

This is based upon baseline geologic and hydrologic information. See 62 Ill. Adm. Code Sections 1701.Appendix A and 1784.14.

1. Office of Surface Mining Guidance

The Federal Office of Surface Mining Mid-Continent Region (OSM-MCR) developed a document in June 2007 entitled *Hydrologic Considerations for Permitting and Liability Release, a Technical Reference for the Mid-Continent Region*. In determining whether a CHIA is required, OSM-MCR states that “the operative word in the CHIA concept is *cumulative* which seemingly necessitates the potential interaction of two or more anticipated mining operations.” (p. 17) Further OSM states, “While it may be possible that for a single hydrologically isolated mine the probable hydrologic consequences determination made by the operator would be adopted by the regulatory authority as the CHIA, nevertheless such a conclusion must be reached by the regulatory authority on a case-by-case basis.” (p. 17)

2. CIA Determination for Permit Application No. 438

Here, there are no current coal mining operations upstream or upgradient of the ICG Illinois, LLC, Viper Mine. Further, no other current mining operations in close proximity to the Viper Mine are known by the Department. The region’s hydrologic system can be defined as the Hydrologic Unit Code (HUC) 12 areas that both the permit and shadow areas encompass. For this assessment, the Department looked within the five HUC 12’s (the Town of Elkhart-Lake Fork, Little Wolf Creek-Wolf Creek, Town of Barclay, Fancy Creek and Elkhart Slough-Lake Fork HUC’s) that include the existing and proposed Viper permit and shadow areas.

The lack of other existing or anticipated mining operations existing within the same hydrogeologic area (i.e., HUC 12 areas) negates the need for a CIA, as a single isolated mine

cannot have a cumulative effect on the hydrologic system. Therefore, the Department has concluded that a CIA is not required and the Department's assessment of the Probable Hydrologic Consequences (PHC) follows pursuant to 62 Ill. Adm. Code 1784.14(b)(3) and 1784.14(e).

B. Assessment of the Probable Hydrologic Consequences (PHC) for the Permit Area and the Shadow Area

1. Permit Area and the Shadow Area

For purposes of this CHIA, the Department will discuss the Permit Application No. 438 area. Previously, the Department conducted the required hydrologic assessment on the original Permit No. 3, Permit No. 154, Permit No. 322 and Permit No. 391 permit areas, shadow area, and their respective adjacent areas.

Per 62 Ill. Adm. Code Section 1701.Appendix A, the following terms are defined:

The "permit area" is defined as:

[T]he area of land and water within the boundaries of the permit which are designated on the permit application maps, as approved by the Department. This area shall include all areas which are or will be affected by the surface coal mining and reclamation operations during the term of the permit indicated on the approved map which the operator submitted with the operator's application and which is required to be bonded under 62 Ill. Adm. Code 1800 and where the operator proposes to conduct surface coal mining and reclamation operations under the permit, including all disturbed areas; provided, that areas adequately bonded under another valid permit may be excluded from a permit area. The permit area excludes the area defined in this Part as the shadow area.

The "shadow area" is defined as:

[A]ny area beyond the limits of the permit area in which underground mine workings are located. This area includes all resources above and below the coal that are protected by the State Act that may be adversely impacted by underground mining operations including impacts of subsidence.

The "adjacent area" is defined as:

[T]he area located outside the permit area, or shadow area, where a resource or resources, determined according to the context in which adjacent area is used, are or reasonably could be expected to be adversely impacted by proposed mining operations.

As described in Section I.B.14 above, the permit area for Permit Application No. 438 consists of approximately 282 acres which will be used for the disposal of both coarse and fine coal refuse and for soil stockpile areas and sediment control areas. For purposes of this CHIA, the adjacent area for Permit Application No. 438 is delineated on Map No. 1 as those areas where the surface water and groundwater resources could be reasonably expected to be adversely impacted by the proposed mining operations and further described below in this Section.

As approved by the Department for Permit No. 3, the shadow area is described as:

The approximately 60,905 acre tract of land located in parts of Sections 19 and 30 of Township 18 North, Range 4 West, and parts of Sections 23, 24, 25, 26, and 27 of Township 18 North, Range 5 West of Menard County, Illinois; parts of Section 15, 16, 17, 18, 19, 20, 21, 29, 30 and 31 of Township 17 North, Range 3 West, parts of Sections 1 through 18, 20 through 30 and 32 through 36 of Township 17 North, Range 4 West, parts of Sections 1, 2, and 12 of Township 17 North, Range 5 West, parts of Sections 31, 32, 33, 34, 35, and 36 of Township 18 North, Range 4 West and parts of Sections 35 and 36 of Township 18 North, Range 5 West of Sangamon County, Illinois; and parts of Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 of Township 17 North, Range 3 West, parts of Sections 18, 19, 20, 21, 22, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 and 36 of Township 18 North, Range 3 West and parts of Sections 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, and 29 of Township 18 North, Range 4 West of Logan County, Illinois.

As required by 62 Ill. Adm. Code 1784.14(b)(1), the permittee had to provide information on all groundwater wells found within one-half (1/2) mile from the perimeter of the shadow area that could be impacted by subsidence caused by underground coal extraction. Pursuant to 62 Ill. Adm. Code Sections 1784.20 and 1817.121, the permittee is required to execute a subsidence control plan approved by the Department which provides for mitigation of damages caused by unplanned subsidence. Therefore, for the purposes of this CHIA, the Department has determined that the adjacent area for the Permit No. 3 shadow area is the area one-half mile away from the perimeter of the shadow area. This area extending one-half mile area away from the shadow area perimeter identifies those areas where the surface water and groundwater resources could be reasonably expected to be adversely impacted by the proposed mining operations.

Hereinafter, the Application No. 438 area and its adjacent area shall be referred to as the “permit area” and the Permit No. 3 shadow area and its adjacent area shall be referred to as the “shadow area”.

a. Regional Hydrologic Area

The existing permit and shadow areas are located in the glaciated upland area of southwestern Logan County. These areas are situated within the reaches of three streams, Lake Fork Creek, Wolf Creek and Fancy Creek. Unnamed tributaries and associated branches to Lake Fork Creek exist, but do not pass through the existing or proposed permit areas, and only headwaters of unnamed tributaries exist within the existing shadow area. Unnamed tributaries and associated branches of both Wolf Creek and Fancy Creek pass through the existing shadow area. The proposed Permit Application No. 438 area is located in an area untouched by any streams. Lake Fork Creek drainage flows to the north, toward Salt Creek while both Wolf Creek and Fancy Creek drain to the south toward the Sangamon River. The nearest USGS gaging station located on Lake Fork Creek is near Cornland, Illinois. There is also a gaging station on the Sangamon River near Riverton, Illinois. However, there are no USGS gaging stations located on either Wolf Creek or Fancy Creek. The USGS gaging station on Lake Fork Creek near Cornland, Illinois (05579500) has a drainage area of 214 square miles (136,960 acres). This gaging station is approximately 4 miles southeast of the surface facilities permit area; its use is inappropriate, given its location upstream of the existing and proposed permit areas.

b. Permit Area Surface Waters Assessment Area

The permit area surface waters assessment area has been defined as the approximately 1.6 square mile (1,034-acre) area which encompasses the portions of the watersheds of Lake Fork Creek (See Map No. 1). The permit area assessment for surface waters includes portions of the existing and all of the proposed permit areas. The watershed of Lake Fork Creek, at the confluence with Salt Creek, has been estimated to be approximately 279 square miles (178,560 acres).

Two unnamed tributaries of Lake Fork Creek receive any discharges from the facility – one unnamed tributary is located to the west of the existing and proposed permit areas, while the other is located to the east. Both unnamed tributaries flow to the north-northeast before joining the main body of Lake Fork Creek. The surface drainage area of the western tributary is approximately 5.4 square miles (or 3,456-acres), while the eastern tributary drainage area is approximately 1.1 square mile (or 704-acres). Combined, these two drainage areas are approximately 6.5 square miles (or 4,160 acres).

The proposed Permit Application No. 438 area is approximately 282 acres in size. The combined surface facilities permit areas of Permit No. 3 and Permit No. 154 is approximately 752 acres; the size of the existing and proposed permit areas is roughly 25% of the combined unnamed tributaries of Lake Fork Creek and 0.5% of the total Lake Fork Creek watershed size. Where the western (and furthest downstream) tributary entered Lake Fork Creek, the watershed size is approximately 252 square miles (or 160,998-acres) and the existing and proposed permit areas are 0.6% of the surface drainage.

The potential mining-related impacts to surface water in the area encompass approximately 0.6% of the watershed. Based on this, the impacts should be negligible due to the volume of water contributing to Lake Fork Creek at the confluence with Salt Creek and the fact that no direct runoff from the existing or proposed permit area will directly discharged into Lake Fork Creek.

c. Permit Area Groundwater Assessment Area

The permit area groundwater assessment area has been defined as the same area as the surface water assessment area. The groundwater assessment area for the permit area has been selected based upon the Department's assessment of the possible hydrologic impacts which may occur as a result of mining operations proposed for Application No. 438. The subsurface hydrologic components considered in this assessment include all significant water-bearing units in and within the vicinity of the surface facilities permit area (See Map No. 1).

d. Shadow Area Surface Waters Assessment Area

The shadow area surface waters assessment area is approximately 61,796 acres. This assessment is limited to the perimeter of the shadow area. The Department limited the assessment area to the shadow area as lands beyond the shadow area are generally, historically unaffected by room and pillar mining operations.

e. Shadow Area Groundwater Assessment Area

The shadow area groundwater assessment area is approximately 61,796 acres. This assessment is limited to the perimeter of the shadow area. The Department limited the assessment area to the shadow area as lands beyond the shadow area are generally, historically unaffected by room and pillar mining operations.

2. Geologic Information Required by 62 Ill. Adm. Code 1784.22

a. Baseline Geologic Information

As previously indicated by the permittee, the application for Permit Application No. 438 provides that the regional bedrock geology of the area consists of Pennsylvanian system formations. Sixty percent of the Pennsylvanian system strata are classified as sandstones, while most of the remainder of the strata is siltstones and shales. A small percentage of the remaining strata (approximately one percent) of the Pennsylvanian system are classified as coal and/or limestone units. No known geologic faults and/or fractures appear to exist regionally, and none exist within the existing or proposed permit areas.

Unconsolidated deposits within the surface facilities permit area are Pleistocene in age, and are approximately 200 feet thick and consist of clays, sands, tills, outwash, and drift materials.

Site-specific geology, interpreted from the boring and corehole logs, submitted with the original permit application indicates the depth to the Springfield No. 5 Coal Seam ranges from 270 vertical feet to 300 vertical feet. The regional dip of the Springfield No. 5 Coal Seam is toward the southeast. The Springfield No. 5 Coal is overlain by alternating shale and limestone layers. The roof material of the Springfield No. 5 Coal has been described as a thin (less than one foot thick) black shale. The target coal seam is approximately five and a half to six feet thick in the area.

The geology of the proposed Permit Application No. 438 area is similar to the geology of the original Permit No. 3 area. Unconsolidated thicknesses in the proposed permit area are approximately two hundred feet thick and like the unconsolidated materials described in the original permit, consist of clays, sands and till zones. The sand units are rather extensive and act as the local aquifer.

b. Geologic Information Findings

The application for Permit Application No. 438 provides that the bedrock in the vicinity of the existing and proposed permit area and the existing shadow area consists of layered beds of shale, sandstone, limestone, dolomite and coal. The coal refuse produced at this facility is slightly acidic (-14 tons/1000 tons calcium carbonate (CaCO_3) equivalent (coarse) and -11 tons/1000 tons CaCO_3 (fine)), but with the addition of approved CCW materials, the net neutralization potential ranges from 150 to 295 tons/1000 tons CaCO_3 . The approved mining operations consist of underground mining and potential sources of acid-forming materials, mainly the coal refuse materials, will be disposed of on the surface. The permittee stockpiled any potentially acid-

forming material encountered during development of the shaft/slope, properly covered the stockpile and adequately identified the materials.

For Permit Application No. 438, the applicant provided the acid-base accounting data on the refuse being produced at the Viper Mine, collected in June, 2016. The overall net neutralization potential for the fine coal refuse is -11 tons per 1000 tons; while the net neutralization potential for the coarse refuse averages -14 tons per 1000 tons. The analysis of the coal refuse (both the coarse and fine fractions) indicates that the refuse materials are potentially acidic. However, it has been previously approved by the Department to utilize coal combustion waste (CCW) to mix with the coal refuse to neutralize the acidic potential. Proper handling of this refuse/ash material will minimize any negative impacts to the hydrologic balance. Proper handling includes keeping the coarse refuse surface fresh to prevent oxidation and once the coarse refuse ring is completed, adequately covering the coarse refuse with alkaline materials and supplementing the refuse with neutralizing materials, such as the approved CCW sources.

3. Hydrologic Information Required by 62 Ill. Adm. Code 1784.14

a. Baseline Information

i. Surface Water Quantity Baseline Information

During active operations for the Viper Mine, surface runoff from the Permit No. 3 and Permit No. 154 affected areas will report to one of six sediment ponds constructed for the operation. For the proposed Permit Application No. 438 area, the applicant is proposing the installation and construction of two additional sediment ponds that will collect runoff and drainage from the proposed Permit Application No. 438 area and RDA itself. At the end of operation, two of the six original sediment ponds will remain as water; increasing the acres of water resources by approximately 18 acres. All of the proposed sediment ponds for Permit Application No. 438 will be removed and the land uses restored. No developed water resources existed within the original Permit No. 3 or Permit No. 154 areas or in the proposed surface facilities permit area for Permit Application No. 438. However, several small ponds are present within the Permit No. 3 shadow area.

As previously indicated by the permittee, the application for Permit Application No. 438 indicates that surface water flow will be minimally affected as a result of the operations at the Viper Mine. The permittee has constructed multiple sedimentation ponds within the Permit No. 3 and Permit No. 154 areas. During mining, these ponds will retain rainfall which previously ran off unabated to the receiving streams. This added detention time could have two possible effects. The first would be that the peak flows from storm events could be decreased because of added detention time afforded by these structures. The second possibility, related to the first, is that base flows of the receiving stream could be increased as the ponds would more slowly release water after rainfall events than before the ponds were in place.

Lake Fork Creek is classified as a perennial stream. Perennial streams, in a normal year, are streams, or parts of streams that flow continuously during all of the calendar year as a result of groundwater discharge or surface runoff. Lake Fork Creek has an average 2.4 cubic foot per second (cfs) 7Q10 flow at the USGS Gaging Station near Cornland (Singh, Ramamurthy and Seo, 1988). Both Wolf Creek and Fancy Creek appear to have a zero 7Q10 flow for their entire

lengths. A 7Q10 flow is defined as the lowest average flow that occurs for a consecutive seven-day period at a recurrence interval of 10 years.

Originally for issuance of Permit No. 3, no surface water samples were collected, due to the lack of existing streams or tributaries within the permit area. For the Permit Application No. 438 area, the permittee attempted to collect surface water samples following rainfall events in June and July 2016 from the road culvert that passes beneath Township Road 700; however, no measureable flow was observed.

As previously indicated by the permittee, Permit Application No. 438 provides that the permittee intends to obtain water for the operation of the mine from a variety of sources. These include freshwater ponds, slurry cells, sedimentation ponds and from the Pearl Aquifer itself. All water collected on-site will be re-circulated between the ponds and the preparation plant. Utilization of water from the Pearl Aquifer will slightly lower the amount available to the current system, but the amount that is extracted should not negatively impact the hydrologic balance of the aquifer system. Lastly, the permittee states that any mine pumpage from mine dewatering will be added to the sediment ponds and utilized for prep plant water.

As previously indicated by the permittee, Permit Application No. 438 provides that there are no known large surface water bodies or lakes within the mining area; nor are there any known springs within the existing shadow area. Several small farm ponds are known to exist; however, the permittee states that none of these existing ponds are greater than 20-acre feet in size.

ii. Surface Water Quality Baseline Information

As previously indicated by the permittee, surface activities during slope/shaft development would expose buried strata to the atmosphere and have the potential to increase the total dissolved solids and total suspended solids in surface runoff. These development materials were properly handled by the permittee. Handling plans include the use of the consolidated materials for road bases and any toxic materials will be stockpiled, covered with clay and kept for slope/shaft backfilling during reclamation. Sedimentation ponds will collect runoff from the permit area that would otherwise runoff unabated to the area's receiving streams. The sedimentation ponds will increase the retention time of water from the permit area after a precipitation event. This will allow the suspended solids to settle prior to discharge and lower the peak flows from the area. The concentration of suspended solids in the effluent should be no greater than the runoff from the existing land use of the property. The sediment ponds also provide an opportunity to provide water treatment, if necessary, prior to discharge.

Regional surface water quality for Lake Fork Creek watershed has been described in a report by Zuehls, et al. (1984). The report provides surface water quality results for a two monitoring stations, one located on Lake Fork Creek and the other on the Sangamon River. These monitoring stations are USGS gaging stations located on Lake Fork Creek near Cornland (05579500) and on the Sangamon River near Riverton (05576500). The monitoring station near Cornland and Riverton were sampled approximately 50 times between 1978 and 1981. Table 1 gives the range of results for each parameter monitored in the Lake Fork Creek and Sangamon River watersheds.

Table 1 – Regional Surface Water Quality

	<u>Station 05576500</u>	<u>Station 05579500</u>
pH	7.3-8.8	7.3-8.5
Conductance	184-950	340-1,650
Alkalinity	180-358	96-110
Acidity	--	--
Sulfate	51-57	32-170
Total Iron	0.2-28.2	0.36-7.8
Total Manganese	0.069-1.6	0.056-0.48

All parameters are reported in mg/l, except pH and Conductance (umho/cm)

Lake Fork Creek and several segments of the Sangamon River, as well as Wolf Creek and Fancy Creek are included on the 2016 Illinois 303(d) List. The 303(d) list was developed to fulfill the requirements set forth in Section 303(d) of the Federal Clean Water Act and the Water Quality Planning and Management regulation at 40 CFR Part 130. The 303(d) process focuses on identifying existing water quality problems and developing restorative measures. Waterbody Segment IL_EIG-01 Lake Fork is the segment that would receive any runoff from the existing and proposed operations and is just below the confluence Salt Creek to the north. This segment is not supporting for aquatic life and primary contact, but is fully supporting aesthetic quality; it was not assessed for fish consumption or secondary contact. Waterbody Segment IL_EIG-01 is noted as being impaired by alteration in stream-side or littoral vegetation, water temperature and fecal coliform. The sources of these impairments are listed as channelization and source unknown. None of these impairments appear to be related to the existing mining operation.

Waterbody Segments IL_E-26, IL_EM and IL_EN-01 are located south of the existing and proposed permit areas but at least partially within the existing shadow area. Waterbody Segment IL_E-26 is not supporting for aquatic life, fish consumption and primary contact (it was not assessed for secondary contact), but fully supporting for aesthetic quality. This segment of the Sangamon River is impaired by nickel, dissolved oxygen, silver, pH, PCB's and fecal coliform. The source of these impairments is listed as source unknown. Waterbody Segment IL_EM (Fancy Creek) is not supporting for aquatic life, but fully supporting for aesthetic quality; the only usages assessed). The cause and source of this impairment is unknown. Waterbody Segment IL_EN-01 (Wolf Creek) was not assessed for any usage. Again, the causes and sources of the impairments in the Sangamon River segment and in Fancy Creek do not appear to be related to the existing mining operation.

No surface water will be discharged off-site without first passing through a sedimentation pond and/or an NPDES discharge point (outfall). The quality of the water that the applicant proposes to discharge from the NPDES discharge points is within all applicable State and Federal effluent limits.

The Permit No. 3 RDA was designed so that surface water runoff is collected via external ditches that surround the original RDA and discharge into either Pond 002 or 003. For the North Coal Refuse Slurry Impoundment (Permit Application No. 438), Pond 013 will be constructed as an

external ditch to the RDA, collecting all surface runoff. Pond 012 will be constructed to the west of the proposed RDA to collect runoff from the two soil stockpile areas.

Within the Permit No. 3 shadow area, several small ponds exist. Many of these ponds appear to be man-made and are presumably for farm (livestock) or aesthetic purposes. During active room and pillar mining no changes in water quality or quantity are expected.

iii. Groundwater Quantity Baseline Information

The groundwater potential of the permit area and shadow area has been described by the applicant in the Permit Application No. 438 and previously in documents associated with Permit No. 3, Permit No. 154 and Permit No. 391. The major groundwater source in the area is the Pearl Formation (aquifer), a sand unit located in the unconsolidated materials, approximately 20 to 30 feet below ground surface. The deeper Kansan Outwash Formation (aquifer) that consists of till, loess and alluvium materials. Generally, the Pearl and Kansan formations are separated by a lower permeability Vandalia Till; however, the applicant notes that there may be an area located near the center of the proposed Permit Application No. 438 area and extending to the southwest, where the Vandalia Till may be missing and the Pearl and Kansan formations are in contact with one another.

The Pearl aquifer is approximately 10 to 30 feet thick; this aquifer appears to be under semi-confined conditions and in some locations, especially along the north end of the proposed permit area, the hydraulic head appears to be above the ground surface elevations. The Pearl aquifer, along with the deeper Kansan aquifer, is the source of drinking water for the Village of Elkhart. The Village of Elkhart's public water supply well is screened within the Kansan aquifer. The Village of Elkhart utilizes approximately 45,000 gallons per day (gpd) of groundwater for its citizens. The Viper Mine utilizes the shallower Pearl aquifer for mine make-up water, mine water and potable water.

As previously noted, the unconsolidated materials in the vicinity are approximately 100 feet thick and are composed of loess, clays, sand, till, and outwash materials. The applicant reports that the Pearl/Kansan aquifer has an annual recharge of 200,000 to 250,000 gpd per square mile. Because of the shallow, unconsolidated aquifers, identification and development of bedrock aquifers has not occurred.

The permittee provided an average measurement of the in-situ hydraulic conductivity of the unconsolidated materials. These values, as presented in Permit Application No. 438 are presented in Table 2 below:

Table 2 – Calculated Hydraulic Conductivity

<u>Stratum</u>	<u>Hydraulic Conductivity</u>
Loess	1.3 to 2.7×10^{-7} cm/sec
Peat/Organic Clay	--
Clay, grading to silt	0.3×10^{-7} cm/sec
Sand	0.8 to 5×10^{-3} cm/sec

Generally, hydraulic conductivities of clays and tills range from 10^{-9} to 10^{-4} cm/sec, while hydraulic conductivities of silts range from 10^{-6} to 10^{-4} cm/sec and values for sands range from 10^{-5} to 10^{-1} cm/sec. (Fetter, 1988). The site-specific values are similar to this.

No bedrock aquifers have been identified or discussed by the applicant.

Beyond these shallow, unconsolidated units of the Pearl and Kansan formations, no other sources of groundwater are known. It appears that the majority of the residents in the vicinity of both the original and proposed permit areas obtain their water supply from rural and/or municipal water systems. One private well has been identified and located within one-half mile of the proposed Permit Application No. 438 area. This well appears to obtain water from the Pearl formation and is located to the northwest of the proposed permit area.

Several public water supplies within ten miles of the proposed Permit Application No. 438 area have been identified. Each of the public water supply systems obtains their water from a groundwater source. The nearest public water supply is the Village of Elkhart at one-half mile; the public water supply for the town of Broadwell is approximately 3 miles away; United Water IL in Lincoln is approximately 8 miles away, while Morningside MHP and Mt. Pulaski's public water supplies are approximately 6 miles away. Four other public water supplies are identified as being at least 10 miles from the proposed permit area – Middletown, Fancy Creek Township, Villa Vianney and Williamsville.

The permittee has installed and collected background data from over 50 installed monitoring wells over the life of the Viper Mine, which are suitably located to intercept any potential mine impacts prior to them reaching the residential or public water supply wells. Many of these wells have been continuously sampled since Permit No. 3 was originally issued.

One private well reportedly in use as a primary water supply reports a depth of 45 feet. The permittee does not expect any impacts to this private well, nor to the identified public water supply wells in the region.

The permittee has not proposed any consumptive uses of groundwater within this proposed Permit Application No. 438; however, the mine currently utilizes groundwater for mine make-up water, mine water and potable uses for mine personnel. To date, no impacts from the mine's usage of the groundwater have been reported or noted.

Pursuant to 62 Ill Adm. Code 1817.41(j), the operator for the Viper Mine will be required to provide adequate replacement for drinking domestic and residential water supplies impacted by underground mining activities conducted after January 19, 1996.

iv. Groundwater Quality Baseline Information

The permittee monitored seven wells located within or near the proposed permit area. In addition to the newest wells, twenty-six wells exist at the Permit No. 3/Permit No. 154 area. Background groundwater quality data was collected from March 2012 to June 2016 as part of the Permit Application No. 438. Background data has been previously established on the wells for Permit No. 3. Groundwater monitoring of all wells will continue on a quarterly basis until the Department determines that the well are no longer needed. All of these wells for Permit

Application No. 438 were completed in the unconsolidated materials; total depths of the wells are approximately 50 feet below ground surface and each well appears to have been screened within the sand unit (likely the Pearl Formation (aquifer). The permittee installed the seven wells (D6, D7, D8, D9, D10, D11, and D12) to specifically monitor the groundwater in the vicinity of the Permit Application No. 438 RDA. See Map No. 2 for the groundwater monitoring well locations. This background data is summarized in Table 3 below:

Table 3 - Groundwater Quality in the Permit No. 438 Area

	<u>D6</u>			<u>D7</u>			<u>D8</u>		
	<u>Min</u>	<u>Max</u>	<u>Avg</u>	<u>Min</u>	<u>Max</u>	<u>Avg</u>	<u>Min</u>	<u>Max</u>	<u>Avg</u>
pH	6.87	7.76		6.88	7.8		6.98	7.96	
TDS	340	540	434	340	680	392	320	370	346
Hardness	260	2100	537	300	580	369	290	490	345
Acidity	<4	65	27	8	68	35	<4	25	15
Alkalinity	320	500	433	350	450	380	310	350	332
Sulfate	<1	11	3.6	<1	4.1	1.7	9.9	17	12.5
Iron (Total)	0.019	190	22.6	0.042	40	5.65	0.03	20	4
Manganese(Total)	0.032	5	0.73	0.016	0.79	0.165	<0.01	0.43	0.18
Chloride	4.7	9.5	6.7	3.3	5.2	4	6	9.5	7.35

	<u>D9</u>			<u>D10</u>			<u>D11</u>		
	<u>Min</u>	<u>Max</u>	<u>Avg</u>	<u>Min</u>	<u>Max</u>	<u>Avg</u>	<u>Min</u>	<u>Max</u>	<u>Avg</u>
pH	6.43	7.76		7.02	7.96		7.19	7.83	
TDS	300	410	364	300	440	350	320	430	353
Hardness	310	2600	506	250	1700	434	290	630	348
Acidity	9	51	27	<4	35	14	<4	42	20
Alkalinity	360	400	374	300	350	336	340	370	356
Sulfate	<1	2.7	1.2	4.4	7.4	5.8	<1	6.8	2.5
Iron (Total)	0.47	180	16	0.049	170	15	0.32	150	14
Manganese(Total)	0.094	5.2	0.52	0.075	3.7	0.36	0.076	1.2	0.23
Chloride	2	3.3	2.6	6.2	8.5	7.2	3.8	8.3	5.2

	<u>D12</u>		
	<u>Min</u>	<u>Max</u>	<u>Avg</u>
pH	7.03	7.95	
TDS	270	410	337
Hardness	280	870	374
Acidity	7	36	19
Alkalinity	310	360	339
Sulfate	<1	6.7	4.5
Iron (Total)	0.01	70	9.8
Manganese(Total)	0.01	1.4	0.32
Chloride	4.2	7.9	5.5

All parameters in mg/l except pH.

The background groundwater quality of the proposed permit area wells indicates that the average iron and manganese values are elevated in the majority of the installed wells. Where these parameters are elevated, they exceed the IEPA's Groundwater Quality Standards as defined in 35 Ill. Adm. Code 620, and in the case of total iron, are at least two times the Class I Groundwater Quality Standard. The applicant has not provided an explanation for the elevated iron and manganese levels in the wells, but these results are not abnormal for groundwater in the region. The permittee was instructed to sample all groundwater monitoring wells for both total and dissolved metals to further analyze the true chemistry of the groundwater at the permit area. Initial analytical data for dissolved metals, indicate that the majority of the results are well below the groundwater standards, which indicates that the total metals collected at the site during background data collection, were on suspended materials in the groundwater and not from the groundwater itself.

No discernable pattern of seasonality is readily seen from the existing background data. A potential source of impacts to groundwater quality would be from the disposal of coal processing waste material in the proposed permit area. Coal refuse contains materials that can produce acidic conditions when oxidized. The permittee originally had approximately 260 acres of coal refuse disposal within the Permit No. 3 and Permit No. 154 permit areas. The original coal refuse disposal area contains both a coarse refuse ring and slurry cell; ash is commingled with the refuse in this cell. With Significant Revision No. 7 to Permit No. 3, an above-grade ash disposal pile, located north of the original RDA, was approved. However, no ash disposal occurred here, until IPR No. 74 to Permit No. 3, which changed the ash disposal pile to a commingled coarse refuse and CCW pile.

The original Permit No. 3 RDA included an in-situ liner, utilizing the existing native clay materials. The disposal areas located to the north have been lined with a 60-mil synthetic liner; the same liner system that is proposed to be installed in the Permit Application No. 438 area.

The proposed Permit Application No. 438 RDA, to be located within the Permit Application No. 438 area is to be constructed with a 60-mil synthetic liner, with an equivalent minimum permeability of 1×10^{-7} cm/sec.

Once disposal in the Permit Application No. 438 RDA is complete, the disposed materials will be sampled and analyzed for acid-producing potential. The coal refuse will then be covered with four feet of non-toxic material and further reclaimed per the applicant's plan. Studies by Infanger and Hood (1980) and Hoving and Hood (1984) have shown that for even highly acidic material, free acid generation should not occur as long as the material is covered with alkaline producing material, and oxidation of pyritic material is prevented.

Monitoring wells D6, D7, D8, D8, D10, D11 and D12, were installed to monitor the Permit Application No. 438 RDA; in addition, groundwater monitoring wells D13, D14, D15 and D16 will be installed, as requested by the Illinois EPA. These wells were sampled/analyzed 18 times during the permit review process and will continue to be sampled quarterly for the following parameters: aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chloride, chromium, cobalt, copper, cyanide, and fluoride, lead, mercury, molybdenum, nickel, selenium, silver, thallium, phenol, vanadium, and zinc. In addition to the preceding list, these seven wells, were installed to monitor for pH, total dissolved solids, hardness, alkalinity, acidity, sulfates,

total and dissolved iron, total and dissolved manganese and water levels (in elevation). The four wells to be installed will also be monitored for the above list of parameters.

v. **Existing and Proposed Coal Processing Waste Disposal
Baseline Information**

The approximate 260-acre Permit No. 3/Permit No. 154 RDA is located in the eastern portion of the permit area. The RDA was constructed with an in-situ low permeability clay liner as required at the time of the original permit issuance in 1983.

The Permit No. 3 RDA was originally designed and approved as an impounding structure, with a ring of coarse refuse (gob) on the outer edge and the coal fines, or slurry, deposited in the center. Permit No. 154 was approved in 1984 to add 54 acres to the existing RDA for continued refuse disposal and mine operations. This RDA is still in use today for both coarse refuse and slurry disposal. As noted above, approved CCW materials are mixed with the coarse refuse to add neutralizing ability and to increase stability of the impounding structure.

With Significant Revision No. 7 to Permit No. 3, the Department approved the construction of an ash disposal facility, located north of the original RDA. This approval was granted in 1999, however, this area of Permit No. 3 was not affected. In 2010, the Department approved an IPR to allow the ash disposal area to be converted to a commingled ash and coarse refuse disposal area; known as the North Coarse Refuse Area. Shortly after this IPR approval construction of this disposal cell began. This area was constructed with a 60-mil synthetic liner, protected by a one-foot gypsum layer. The sediment ponds constructed for this area were also lined with the 60-mil synthetic liner, but a one foot soil layer was used as the protective layer above the geosynthetic liner. Currently, coarse refuse is commingled with CCW (ash) materials and disposed of in a refuse pile; no slurry or fine coal refuse is disposed of within this area.

The proposed Permit Application No. 438 Area RDA will also be constructed with a 60-mil synthetic liner at its base. A series of underdrains and internal drains will be installed to aid in removing excessive head pressure from the synthetic liner, as well as to aid in controlling the naturally occurring water table, that at certain times of the year can be close to the ground surface. The proposed Permit Application No. 438 RDA will be similar to the existing Permit No. 3/Permit No. 154 RDA in that the impounding structure will be constructed of a commingled mixture of coarse coal refuse and CCW (ash) and slurry or fine coal refuse will be disposed of within the center of the impoundment ring. The proposed Permit Application No. 438 area RDA will also be excavated approximately four to eight feet below ground surface in an effort to remain above the water table elevations, to a base elevation of approximately 572 feet MSL. Original ground elevations within the proposed Permit Application No. 438 area are approximately 575 to 580 feet MSL.

The existing North Coarse Refuse Area and the proposed RDA will both receive a lower permeability cap to aid in lessening the infiltration of precipitation. The permittee has committed to install a two foot compacted low-permeability soil cover, plus a two foot root medium, soil cover. The two foot compacted soil cover will be compacted to 1×10^{-7} cm/sec permeability and will be constructed in lifts to ensure that this permeability is achieved.

b. Findings

i. Surface Water Quantity Findings

Permit Area

The existing and proposed permit area in relation to surface water quantity comprises a small portion of the total Lake Fork Creek watershed that will receive discharge from the existing and proposed NPDES outfalls. The permit area for Permit No. 3 encompasses approximately 752 acres; the proposed permit area for Permit Application No. 438 adds approximately 282 acres, making the total permit area for this assessment approximately 1,034 acres in size. The permit area surface waters assessment watershed is approximately 178,560 acres in size. The permit area represents approximately 0.5% of the watershed size of the Lake Fork Creek; however, as noted above in II.B.1.c, the existing and proposed permit area is approximately 25% of the watersheds of the unnamed tributaries to Lake Fork Creek that will receive any mine-related discharges. No surface water will directly discharge to Lake Fork Creek without first passing through a controlled, monitored NPDES point and through one of the two unnamed tributaries. Additionally, the permit area is approximately 0.5% of the Lake Fork Creek basin and any potential impacts to the Lake Fork Creek itself would likely be imperceptible. According to the National Climate Data Center, this area of Central Illinois receives approximately 37 inches of precipitation annually. The USGS estimates that the evapotranspiration rates for Illinois are 67% of the annual average rainfall or, in this case, roughly 25 inches per year. A mine of this size generally consumes one to two million gallons of water per day to adequately run the operation. This includes prep plant water, water for the freshwater lakes and sedimentation ponds, dust suppression, bathhouse water, and potable water. Underground mines in Illinois generally utilize on-site waters (from freshwater & sediment ponds, re-circulation systems, etc.). The mine intends to capture as much of the available surface water runoff as possible during the active life of the mine. The mine will have a temporary effect on the amount of available surface water; however, once the mine operations cease, all surface water will again be available to the current system.

Shadow Area

Within the large Permit No. 3 approved shadow area, several small ponds exist. Many of these ponds appear to be man-made and are presumably for farm (livestock) or aesthetic purposes. During active room and pillar mining no changes in water quantity or quality are anticipated or expected.

ii. Surface Water Quality Findings

Permit Area

The effects of the proposed Application No. 438 operations should be negligible on surface water quality within the permit area. Effluent from the NPDES discharge points is proposed to meet all applicable State and Federal standards and is compatible with that in the receiving streams. Adherence to these limits will ensure that adverse impacts will not occur to the surface water quality of the receiving stream as a result of the proposed operations; additionally, the existing uses of the receiving stream, as defined by the IEPA, will not be adversely impacted by this operation.

Shadow Area

The quality of the streams within the Permit No. 3 shadow area should not experience any change in water quality as a result of the proposed Permit Application No. 438 operations.

iii. Groundwater Quantity Findings

Permit Area

Groundwater information that is available indicates that groundwater supplies in and adjacent to the permit area for Permit Application No. 438 are present and currently in use by various towns, municipalities and individuals. According to the permittee, the reported annual recharge to the aquifer, near the proposed and existing permit areas is roughly 200,000 to 250,000 gpd per square mile. The proposed and existing mining operations, comprising approximately 1,034 acres (or roughly 1.6 square miles), should not have an appreciable effects on the recharge abilities of the aquifers.

Shadow Area

It is not anticipated that groundwater quantity within the shadow area will be impacted by the operations proposed in Permit Application No. 438.

The applicant is not proposing any additional consumptive uses of groundwater and unplanned subsidence mining should have no impact on groundwater quantity within the shadow area. Even with the mine's continued use of groundwater, there should be no long-term adverse impacts to groundwater quantity.

Numerous private wells are known to exist within the existing shadow area, with most wells reportedly shallow (less than 60 feet deep), of Permit No. 3. All of the known wells are reportedly completed in the unconsolidated materials. To date, no reports of impacted wells have been reported to the Department. For Permit Application No. 438, a single resident, located within one-half mile of the proposed permit area, reported one well on their property being used for potable purposes. This well is listed at a depth 45 feet.

Given the depth of the proposed mining (approximately 300 feet deep), and the presence of at least 200 feet of overburden between the mined coal and the domestic well, the groundwater quantity of the shallow domestic well should not have a significant long-term impact, if any at all. The Department does not expect additional impacts to the wells from any of the activities proposed in Permit Application No. 438.

With regard to quantity, underground room and pillar mining operations rarely affect the amount of groundwater available.

Lastly, groundwater quantity below the lowest coal seam to be mined should not be affected by the proposed mining operations. The stratum immediately below the Springfield No. 5 Coal is a typical underclay which exhibits low permeability characteristics. The low permeability of the underclay should restrict the downward movement of water from the mine voids into the underlying strata. In addition to the above, there is no indication that any resident currently obtains drinking water from a source below the coal seam.

iv. Groundwater Quality Findings

Permit Area

Groundwater quality potentially could be impacted by the proposed coal refuse disposal operations within the permit area for Permit Application No. 438. However, the applicant will install an impermeable synthetic liner, and during reclamation, will construct a lower permeability cap to minimize infiltration to the groundwater. Therefore, disposal in this area, as described by the proposed plan, should not result in adverse impacts to the groundwater quality. The applicant's monitoring program has been designed to detect any adverse impacts on public or private supplies in time to take corrective measures.

Since the majority of residents in the vicinity of the mine site obtain their drinking water from either rural or municipal water sources, the potential for groundwater impacts should be low. Potential impacts to users of domestic wells should be limited as well due to the protective measures the permittee has proposed.

Pursuant to the Illinois Groundwater Quality Standards of November 1991, the applicant must meet the Coal Reclamation Groundwater Quality Standards of 35 Ill. Adm. Code 620.450(b), for groundwater below the proposed Permit Application No. 438 RDA and the existing Permit No. 3/Permit No. 154 RDA only. These standards require that total dissolved solids remain below 3,000 mg/L, pH between 6.5 and 9.0, and inorganic constituents (metals), with the exception of chlorides, iron, manganese and sulfates, remain below the standards listed in Section 620.410(a) for Class I waters, except for natural background (unless it is shown that Class II, 620.420(a), applies). Quarterly monitoring of the parameters listed above will continue during operations, and through final bond release, to monitor any quality changes. In conclusion, the applicant has designed a groundwater monitoring program which should detect adverse impacts in sufficient time to take mitigating action and prevent adverse impacts to the hydrologic balance.

With regard to quality, the long-term effects of the underground mining operations for Permit No. 3 on groundwater within the Permit Application No. 438 boundary and its adjacent area should be minimal, if they occur at all.

Shadow Area

Groundwater quality in the Permit No. 3 shadow area should not be adversely impacted by either the unplanned subsidence mining method for Permit No. 3 or the proposed operations of Permit Application No. 438.

With regard to quality, no changes or impacts are expected to occur as a result of the proposed Permit Application No. 438 operations.

c. Findings Related to Existing and Proposed Coal Processing Waste Disposal

The newly proposed refuse disposal area for Permit Application No. 438 is approximately 282 acres in size. It is located north of the original permit area. This facility is being proposed as, and has been designed as, an above-grade impounding structure. A 60-mil synthetic liner is proposed

to be installed within the footprint of the Permit Application No. 438 RDA, as well as within all sediment ponds and ditches.

Currently, approximately 25 groundwater monitoring wells have been installed to specifically monitor the groundwater in the vicinity of the Permit No. 3/Permit No. 154 RDA. As noted above, CCW is currently approved and accepted at this facility; where the CCW (ash) materials are commingled with the coarse refuse prior to disposal into either the original impounding structure or in the North Coarse Refuse Area. These compliance point wells will adequately monitor the shallow groundwater and will alert the permittee and the Department to any possible impacts, prior to those impacts reaching beyond the permit boundary. The permittee will continue to monitor these wells on a quarterly basis until such time that the Department determines monitoring is no longer necessary.

There are eleven (seven installed and four additional) wells that will specifically monitor the proposed Permit Application No. 438 RDA. These compliance point wells will also adequately monitor the shallow groundwater and will alert the applicant and the Department to any possible impacts, prior to those impacts reaching beyond the proposed permit boundary.

The Department requires annual analysis of the CCW materials being brought back to the facility and the amount of CCW is limited to 33% of the company's total coarse refuse disposal amount, used to construct the impounding structure (RDA).

III. CONCLUSION

The surface water and groundwater monitoring programs are designed to provide sufficient lead time for notification of any potential impacts, as well as to provide ample time for the investigation and mitigation of any impacts prior to reaching off-site. Both the groundwater and surface water monitoring programs are dynamic and as such, the Department reserves the right to add monitoring parameters or monitoring locations should the need arise. The permittee is required to monitor the surface and groundwater throughout the life of the mine, up to and including the time of final bond release.

The Department's hydrogeologic assessment on the proposed refuse disposal area Permit Application No. 438 is now complete. As noted in the discussions throughout this document, the Department has concluded that the additional permit area will not have a negative impact on either the surface water or groundwater regimes in the permit area for Permit Application No. 438 or the shadow area of Permit No. 3.

Neither the surface water nor groundwater within the permit area for Permit Application No. 438 or the shadow area of Permit No. 3 will be materially damaged unless the quantity and/or quality of water is degraded, on a long-term or permanent basis, beyond applicable standards or a long-term or permanent loss of use is reported. Material damage occurs when the impact is immitigable. Neither the applicant nor the Department anticipates that this will occur.

As noted above, the Department determined that a Cumulative Impact Area (CIA) is not applicable to the Viper Mine facility, due to the mine being hydrologically isolated from other mining operations. The Office of Surface Mining Mid-Continent Region's (OSM – MCR) June 2007 document allows the regulatory authority the latitude to determine whether a CIA and

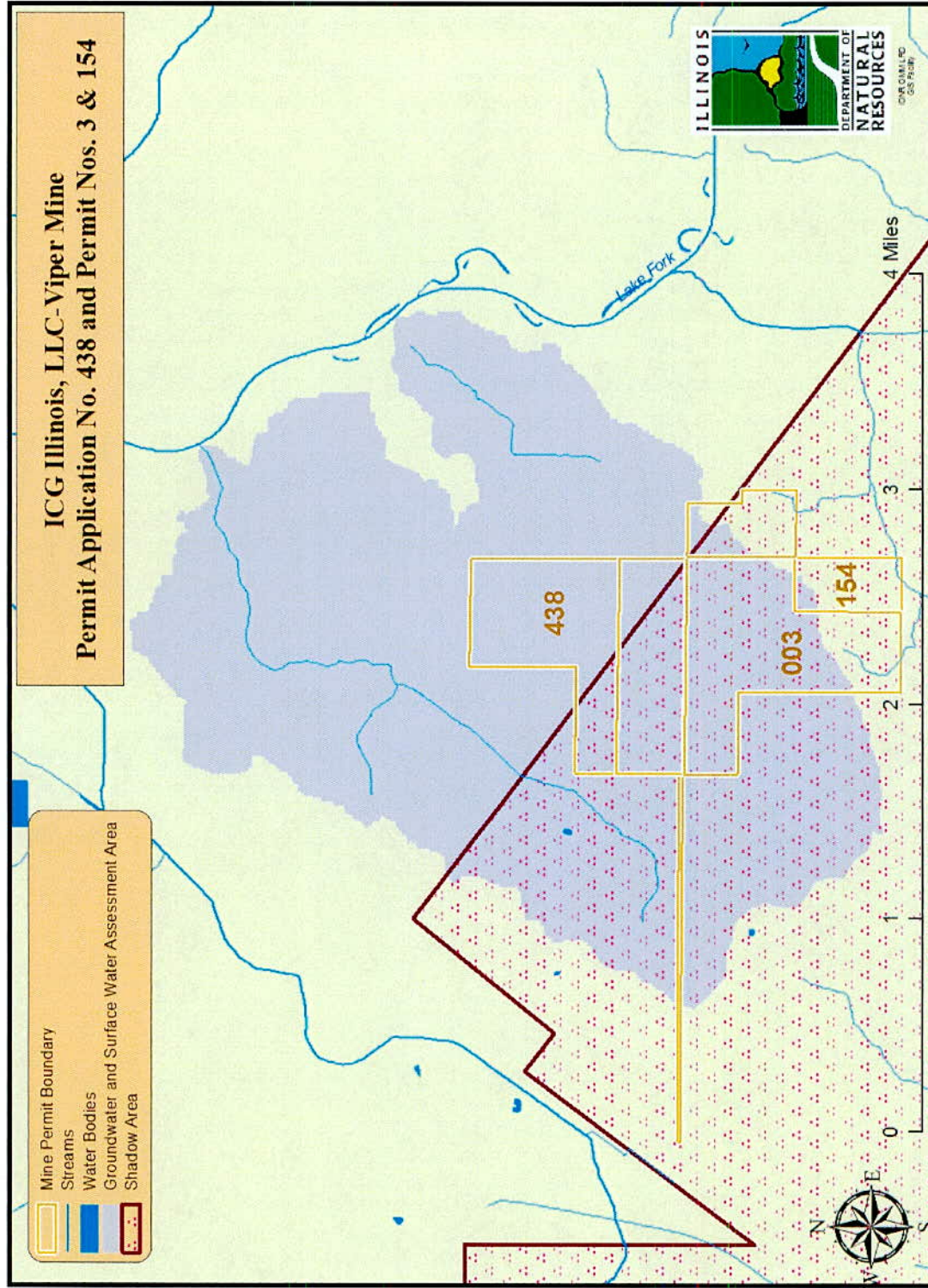
CHIA are necessary. In this particular site, the Department determined the existing mining operation, along with the proposed operation did not require a CIA. However, the Department did conduct an assessment of the probable impacts on the mining operations within the permit, shadow and their respective adjacent areas.

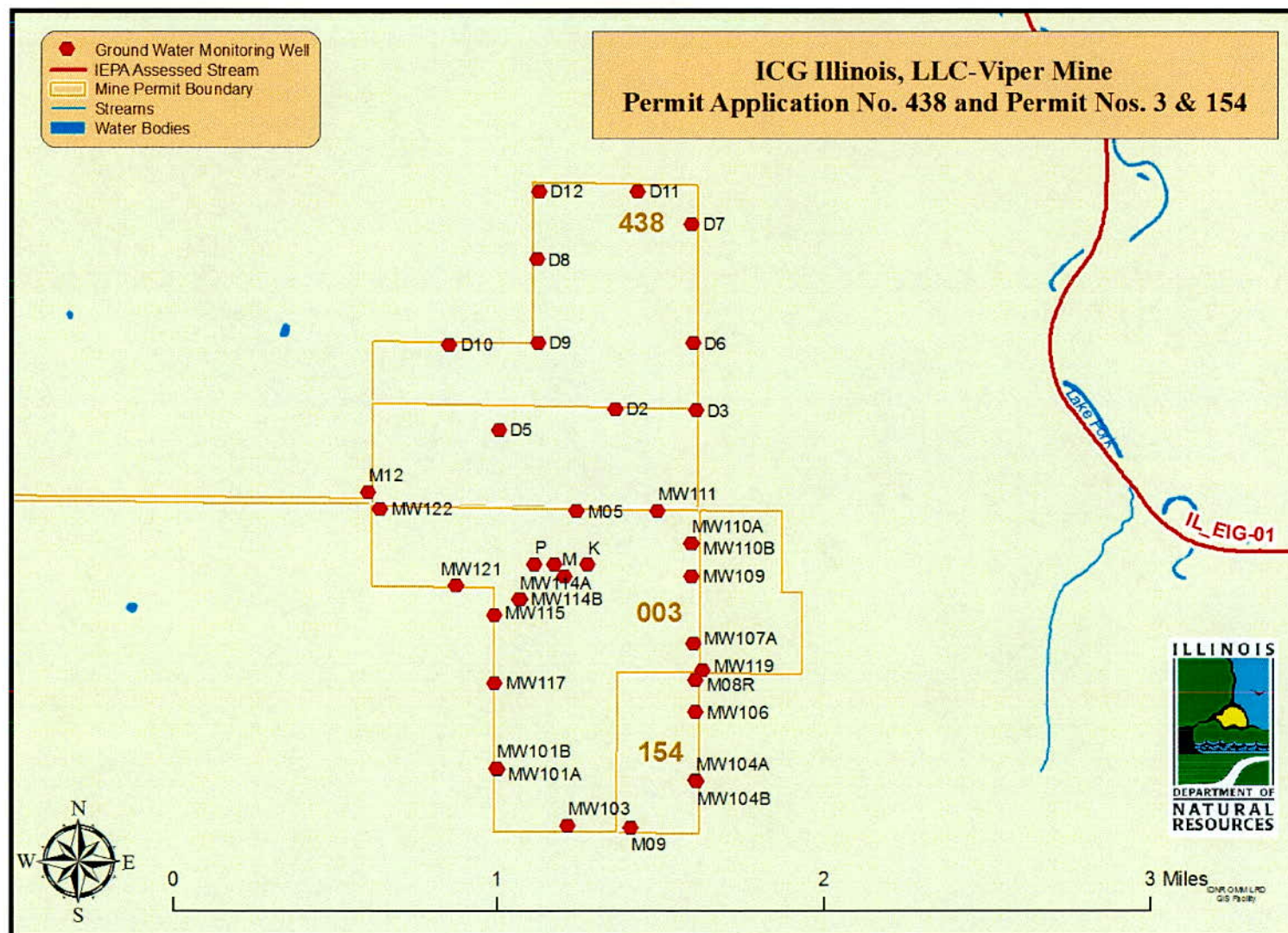
Therefore, the cumulative hydrologic impact assessment finds that the proposed operations have been designed to prevent material damage to the hydrologic balance beyond the Permit Application No. 438 permit area as well as the Permit No. 3 permit areas.

IV. REFERENCES AND ATTACHMENTS

REFERENCES

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Map No. 2

APPENDIX D

DECISION ON PROPOSED POST-MINING LAND USE OF PERMIT AREA

The pre-mining and approved post-mining land use acreage of Permit No. 438 area is as follows*:

	<u>Pre-mining</u>	<u>Post-mining</u>
Cropland	275	63.1
Water Resources	0	0
Pastureland	0	0
Residential	2	0
Industrial/Commercial	0	0
Fish & Wildlife Habitat**	5	218.9
Forest	0	0
Undeveloped	0	0
Total	282	282

*The Department notes that other agencies with environmental and land use authority may use land use definitions other than 62 Ill. Adm. Code 1701.5. Reports for those agencies which may be included in the application will classify and tabulate land uses based on their definitions. As a result, those land use tabulations may not directly correlate with the above tables.

** To facilitate the assessment of the revegetation success performance standards, the post-mining land use of Fish and Wildlife Habitat is broken out as follows:

Wildlife-Herbaceous	Wildlife-Woody	Wildlife-Wetland	Wildlife-Water
201.8	17.1	0	0

The pre-mining and revised post-mining land use acreage of Revision No. 9 to Permit No. 3 area is as follows*:

	<u>Pre-mining</u>	<u>Post-mining</u>	<u>Revised Post-mining</u>
Cropland	649.7	301.2	166.4
Water Resources	0	17.4	17.4
Pastureland	0	0	0
Residential	3	0	0
Industrial/Commercial	0	0	0
Fish & Wildlife Habitat**	3	337.1	471.9
Forest	0	0	0
Undeveloped	0	0	0
Total	655.7	655.7	655.7

*The Department notes that other agencies with environmental and land use authority may use land use definitions other than 62 Ill. Adm. Code 1701.5. Reports for those agencies which may be included in the application will classify and tabulate land uses based on their definitions. As a result, those land use tabulations may not directly correlate with the above tables.

** To facilitate the assessment of the revegetation success performance standards, the post-mining land use of Fish and Wildlife Habitat is broken out as follows:

Wildlife-Herbaceous	Wildlife-Woody	Wildlife-Wetland	Wildlife-Water
471.9			

The post-mining land use change for Revision No. 9 to Permit No. 3 includes a net increase of 134.8 acres Fish & Wildlife Habitat from cropland and an exchange of 109.6 acres of Wildlife-Woody to Wildlife-Herbaceous Habitat.

The Department thus finds the areas affected by surface coal mining activities will be restored in a timely manner to conditions that are capable of supporting the use which they were capable of supporting before mining or to higher or better use achievable under the criteria and procedures of 62 Ill. Adm. Code 1817.133, or as noted. The plan of restoration submitted by the applicant does not present any actual or probable hazard to public health or safety nor does it pose any actual threat of water diminution or pollution as indicated in Appendix C, and the proposed land uses following mining are not impractical or unreasonable as all the post-mining land uses existed prior to mining and are compatible with the surrounding areas. The land uses are not

inconsistent with any applicable land use policy or plan known to the Department and no objections were received from any governmental agency with such authority. The plan does not involve unreasonable delay in implementation and is not in violation of any other applicable law known to the Department. Federal court decisions, commonly known and the “Flannery decisions” and current regulations provide for the distinct difference between surface and underground mining. As a result, the prime farmland identified in the permit is exempt from the provisions of 62 Ill. Adm. Code 1785.17, as provided under Section 1823.11. The Department finds that the areas are to be actively used for an extended period of time; that coal waste disposal is not technologically and economically feasible to store in the underground mine or on non-prime farmland; and that the areas will affect a minimal amount of land. There are fringe areas which are not projected to be disturbed which will retain their original prime farmland capability. Post mining cropland area which are disturbed, such as stockpiles and sediment ponds, will be actively used for an extended time, the life of the refuse area will be subject to the performance standards of 1817.116 (a)(3)(C).

APPENDIX E

THREATENED AND ENDANGERED SPECIES Endangered Species Act of 1973, 16 USC 1531, et seq. 62 Ill. Adm. Code 1773.15(c)(10)

The Department reviewed combined permit application No. 438 and application for Significant Revision No. 9 to Permit No. 3 for potential effects of coal mining operations and related activity on federally listed threatened and endangered species. The following factors were considered for all species that could potentially be adversely affected: status of species in the proposed permit area and adjacent area, site specific resource information, direct and indirect effects, and cumulative effects.

Five primary sources were utilized to identify federally listed threatened and endangered species that could potentially be affected by the proposed coal mining operations and related activities. These sources include threatened and endangered species review information submitted by the applicant, public comments, the U.S. Fish and Wildlife Service (USFWS) the Illinois Office of Realty and Environmental Planning /Division of Ecosystems and Environment (OREP), and Department records.

The threatened and endangered species review submitted by the applicant as a requirement of the Department's UCM-1 application addressed 65 state listed species known to occur in Logan and seven adjacent counties (Sangamon, Menard, Mason, Tazewell, McLean, DeWitt, and Macon), four of these species are also federally listed. A "likely to occur" or "not likely to occur" in the proposed permit or adjacent area assessment was made by the applicant based on a comparison of habitat requirements of each species and habitats documented in the focus area. None of the state or federally listed species are likely to occur within the permit boundary based on habitat requirements and/or distances to documented locations, however presence was assumed for two federally listed species, the threatened northern long-eared bat (*Myotis septentrionalis*) and the endangered Indiana bat (*Myotis sodalis*).

A total of 7.0 acres of potential suitable summer habitat for both species are located within the permit boundary. Presence of the Indiana bat was assumed and a Protection and Enhancement Plan following the USFWS revised 2013 edition of the "2009 Range-wide Indiana Bat Protection and Enhancement Plan Guidelines" (Guidelines) was prepared. The combined application for Permit No. 438 and application for Significant Revision No. 9 to Permit No. 3 was submitted to the Department before the USFWS Final 4(d) rule regarding the northern long-eared bat was published in the *Federal Register* in January 2016. The project will not impact known hibernacula or disturb known maternity roost trees or trees within a quarter mile of a known maternity roost tree for the northern long-eared bat. Although the project is consistent with the northern long-eared bat Final 4(d) rule and subsequent "no critical habitat" determination (Federal Register, April 2016), presence was assumed following Appendix H of the January 2014 "Northern Long-Eared Bat Interim Conference and Planning Guidance" and the species was added to the Protection and Enhancement Plan prepared for the Indiana bat.

The public submitted written comments and requested an Informal Conference and a Public Hearing regarding this application, several issues pertaining to protected species and their critical habitat were raised. The main concerns were adherence to applicable protected species laws, protection of nearby habitats of high value, and regulatory consultation with other natural resource agencies. These concerns are addressed in Appendix B of this findings document and were included in the required modifications to the application where appropriate.

The USFWS provided comments on this combined application in a letter dated March 3, 2016 and follow up comments in a letter dated September 15, 2016. The USFWS identified three federally listed species for the proposed permit area which include the endangered Indiana bat, the threatened northern long-eared bat and the threatened Eastern prairie fringed orchid (*Platanthera leucophea*). The USFWS concluded that there is “no designated critical habitat in the project area at this time”. The USFWS indicated that based on applicant information, no suitable habitat for the Eastern prairie fringed orchid is found on site. The USFWS reviewed the Protection and Enhancement Plan for the Indiana bat and the northern long-eared bat. Based on this information “the Service concurs that the proposed activity is not likely to adversely affect any federally listed species”.

Pursuant 17 Ill. Adm. Code Section 1075 the Division of Ecosystems and Environment with OREP provided comments on October 29, 2014 and on November 12, 2014. The Illinois Natural Heritage Database identified the following protected resources in the vicinity of the project: Elkhart Hill Illinois Natural Areas Inventory Site, Elkhart Hill Grove Land and Water Reserve, Elkhart Hill Grove Nature Preserve, and North Elkhart Hill Grove Land and Water Reserve. The consultation was ultimately terminated after further evaluation by OREP, a determination was made that “adverse effects are unlikely”. Although the consultation was terminated, the Department required the applicant to supply additional information regarding these protected areas and justify why the operations would not have adverse effects. Taking into account the consultation termination issued by OREP and the additional information supplied by the applicant, the Department concurs that the operations as approved are unlikely to adversely affect the above referenced protected resources.

The Department considered site specific resource information, the information provided by the applicant, the concurrence by the USFWS that no critical habitat exists in the permit area or vicinity, and the determination by OREP that adverse effects to nearby protected resources are unlikely. The Department has determined the proposed mining operations and related activities will not affect the continued existence of threatened or endangered species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 USC 1531 et seq.).

The applicant submitted the required information to the Department regarding the Indiana bat and the northern long-eared bat including a suitable habitat determination, assuming presence, and a Protection and Enhancement Plan that encompasses both species. The Department has determined that the applicant correctly and diligently followed the protocol specified in the Guidelines (USFWS, 2013) and Appendix H (USFWS, 2014); by following these guidelines the applicant is in compliance with the USFWS 1996 Biological Opinion on the implementation of the Surface Mining Control and Reclamation Act of 1977 (PL 98-87) with regard to assuring

compliance with the Endangered Species Act. The Department determined that a Protection and Enhancement Plan was necessary for this application because suitable summer habitat for the Indiana bat is located in the proposed operations area; for this reason presence was assumed. The applicant assumed presence of the northern long-eared bat because at the time of submittal the “no critical habitat” designation had not been finalized. The applicant followed the Guidelines (USFWS, 2013) to develop the Protection and Enhancement Plan for both bat species even though the northern long-eared bat is covered by the Final 4(d) Rule and a plan was not required for that species.

Status of Potentially Adversely Affected Species

Indiana bat

The Guidelines (USFWS, 2013) specify the necessity to consider whether known or suitable winter habitat (hibernacula) and/or suitable summer habitat (maternity roosting/feeding) and/or swarming habitat (mating behavior/assessment of hibernacula suitability (Van Schaik, 2015)) of the endangered Indiana bat are located within the proposed permit area. Winter hibernation habitat for the species includes caves, abandoned underground mine workings, and railroad tunnels. Summer maternity roosting habitat includes trees or snags greater than or equal to 5 inches diameter at breast height (dbh) with exfoliating bark (USFWS, 2013) under which female bats, usually numbering less than 100 individuals, roost (Menzel, et al 2001). Suitable swarming habitat consists of forested areas with the described trees that are located within a 10 mile radius of any potential hibernacula (USFWS, 2013).

A major cause of the decline of the Indiana bat is associated with impediments to functioning hibernacula including blocked cave entrances, improper bat gate designs which may impede bat flight into caves or impede proper air flow through caves (USFWS, 1999 and Federal Register, 2007). Arousal following human disturbance to hibernating bats can lead to premature emergence from hibernacula, decreased body condition, and decreased survival (Menzel, et al 2001). Additional causes of decline in the species can be attributed to disturbances or removal of active maternity roost trees and loss of critical habitat. More recently, White Nose Syndrome (WNS) has been identified as having a negative effect on Indiana bat populations.

The range of the Indiana bat covers most of the eastern half of the United States with the majority of roosting colonies in Indiana, Kentucky, and Missouri (USFWS, 2014). For the Indiana bat, recent population data comparing 1997 estimates with historic levels indicate that the range wide population is less than half of historical levels. Indiana bats have declined significantly in some states including Kentucky and Missouri, but have increased in some states, most notably Indiana. Population estimates show an increase of about 30% in Illinois from historical levels to the present (Clawson 2002, Clawson 2004). In 2011 the USFWS reported an increase in Indiana bats in Illinois from 21,677 in 2001 to 53,823 in 2009.

Northern long-eared bat

Suitable winter habitat for this species includes caves and underground mines with high humidity, no air currents, and a constant temperature range (USFWS, 2015). The USFWS indicated in the *Federal Register* (April 2016) that a critical habitat designation is not necessary for this species, however Appendix H (USFWS, 2014) does define suitable summer roosting

habitat as any forested area or isolated live tree or snag that is “≥ 3 inches dbh with exfoliating bark, cracks, crevices, and/or cavities”. Suitable swarming habitat is typically within 5 miles of a known or potential hibernaculum and can include linear features such as fence rows, riparian buffers, or other travel corridors (USFWS, 2014).

The USFWS (2016) indicates that because the above described roosting habitat for the northern long-eared bat is not limited, habitat loss is not a significant threat to the species. The Final 4(d) Rule (Federal Register, January 2016) prevents “take” during sensitive life stages and prohibits incidental take where WNS occurs under these circumstances: if the take occurs within a hibernaculum, if the take occurs from tree removal within 0.25 miles of a known hibernaculum, or if the take occurs from the removal of a known/occupied maternity roost tree or tree within 150 foot radius of the maternity tree between June 1st and July 31st.

The range of the northern long-eared bat in the United States extends across 37 states in the eastern and north-central areas of the country, including Illinois (Federal Register, 2015 and USFWS, 2015). A contributing factor to the overall decline of the species is WNS, a fungal disease affecting hibernating bats with widespread mortality (USGS, 2015). First observed in New York in 2006, WNS has rapidly spread throughout the Northeast and Midwest; northern long-eared bat populations have been reduced by 99% in parts of its range (USFWS, 2015). The first documented observance of WNS in Illinois affecting a northern long-eared bat occurred in LaSalle County in 2013; WNS has since been documented in at least ten additional Illinois counties (IDNR, 2015). The Federal Register Final Rule (2015) listing the species as federally threatened indicates that “overall, summer surveys from Illinois have not documented a decline due to WNS to date”.

Site Specific Resource Information

A qualified wildlife biologist representing the applicant determined that potential suitable summer habitat for the Indiana bat and the northern long-eared bat exists on site, all areas supporting trees of 3 inches dbh or greater were considered potentially suitable. No known caves or underground openings where Indiana bats or northern long-eared bats hibernate or could potentially hibernate exist within the permit area. No known/occupied maternity roost tree data is known near the project area for the northern long-eared bat. The applicant chose to assume presence of the Indiana bat in lieu of conducting field surveys. Because the application was submitted before the Final 4(d) Rule was issued in January 2016, the applicant also chose to assume presence for the northern long-eared bat. It is assumed that these two species are present in the proposed permit area and will be adversely affected and possibly “taken” as defined in the Endangered Species Act; assuming presence is allowed under the federal guidelines but requires the applicant to obtain incidental take authorization.

Direct and Indirect Effects

Take of an Indiana bat and/or a northern long-eared bat is a possible consequence of the proposed mining operations and associated activities. Take could result from killing or injuring bats if roost trees were knocked down while occupied by vulnerable females and/or young; the applicant has committed to honor a “no cut” period during the time of year bats could be present

in trees to minimize the likelihood of such take. Removal of feeding habitat, even if done when the bats are not present, could have indirect effects on the species until this feeding habitat can be restored. The applicant has proposed to replace the required 70% of pre-mine tree habitat that is removed during the course of proposed mining operation and associated activities. Emphasis will be placed on planting tree species that are recommended in the Guidelines (USFWS, 2013) for the benefit they provide to threatened and endangered bat species. Habitat modifications resulting from clearing trees in general could also be interpreted as take under the Endangered Species Act (Romanik, 2010); the applicant has requested an incidental take authorization to account for this broader definition of take. Incidental take authorization is hereby granted under the authority of the 1996 Biological Opinion and the 2016 Biological Opinion issued by the USFWS to the Office of Surface Mining (USFWS 1996 and 2016).

The applicant has committed to the following measures which should serve to minimize disturbances and adverse impacts to Indiana bats and Northern long-eared bats:

1. The applicant will limit tree clearing to October 15 through March 31 to avoid take of a female and/ or young Indiana bat or northern long-eared bat.
2. The applicant will restore woody vegetation as described in the reclamation plan and the Indiana bat and northern long-eared bat Protection and Enhancement Plan using tree species known to be beneficial to threatened and endangered bat species.
5. The applicant will utilize herbaceous ground cover species as described in the Indiana bat and northern long-eared bat Protection and Enhancement Plan that will provide cover and resources for wildlife, reduce competition for tree seedlings/saplings, and provide soil stability and erosion control.

Cumulative Effects

Cumulative effects under the Endangered Species Act are defined at 50 CFR Section 402.02 which states "Cumulative effects are those effects of future state, or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation." In the case of a mining permit being issued by the State of Illinois to a private company to develop a privately owned coal reserve, there is no federal action subject to consultation. Therefore, there are no cumulative effects to consider as that term is defined under Section 402.02. The Department nevertheless has considered other future state, county, township and private activities that are reasonably certain to occur within the adjacent land area. Adjacent and nearby land areas consist of agricultural crop land, some residential areas, county roads, and protected natural areas. Most of the adjacent acreage is owned and managed by private entities other than the permittee. The Department has no reason to believe that detrimental cumulative effects to any threatened or endangered bat species would result from the maintenance of the county road or the continued use of current management activities associated with private land management on the adjacent and nearby land holdings. The most significant nearby critical habitat for the bat species are protected by the Illinois Natural Areas Act. The Department is not aware of any state, county, township or private activities that would

reasonably be certain to occur in the area adjacent or close to the proposed permit area that would adversely affect any threatened or endangered bat species.

Summary

The Department considered the status of the federally endangered Indiana bat and the federally threatened northern long-eared bat, both with the potential to be adversely impacted by the proposed mining operations and associated activities. Although overall populations continue to decline, the Indiana bat population in Illinois is stable or increasing (Clawson, 2004 and USFWS, 2011). Northern long-eared bat population data in the Midwest is limited, however estimates indicate possibly as many as four million northern long-eared bats in 6 states of the Midwest; 21 hibernacula have been documented in Illinois, mostly from the southern region (Federal Register, 2015).

The Department has considered site specific resource information; the proposed permit area is within the range of the Indiana bat and the northern long-eared bat but not considered known habitat by the standards outlined by the USFWS (2013) Guidelines or as defined by the Final 4(d) Rule. The proposed permit area does have suitable potential summer roosting habitat for both bat species as outlined in those Guidelines for the Indiana bat and Appendix H of the 2014 Interim Guidelines for the northern long-eared bat. No critical habitat was identified by the Division of Environment and Ecosystems of OREP or USFWS during consultations for these two protected species.

The Department considered direct and indirect effects of proposed operations on the Indiana bat and northern long-eared bat; the most significant threat to these species from mining operations and associated activities is take due to disturbance of an occupied maternity roost tree. The applicant has committed to honor a “no-cut” restriction period to prevent the possibility of this type of take. Removal of trees may also affect feeding habitat; the best technology currently available for replacement of feeding habitat includes planting trees during reclamation. The applicant has committed to this post-mining reclamation activity along with other provision set forth in the Indiana bat and northern long-eared bat Protection and Enhancement Plan.

The Department has considered cumulative effects as defined under 50 CFR 402.02 and has considered future state and private activities reasonably certain to occur in the adjacent area and is not aware of any such activities which could adversely affect the Indiana bat or the northern long-eared bat.

Conclusion

Pursuant to Section 1817.97(a), the applicant has proposed to minimize disturbances and adverse impacts to the Indiana bat and the northern long-eared bat by implementing measures described above, while using the best technology currently available. Following these measures will minimize and appropriately mitigate adverse impacts to the Indiana bat and northern long-eared bat. Incidental take of both bat species is authorized by the Department via this permitting action as described in the Direct and Indirect Effects section of this Appendix F.

The incidental take as authorized is a take provided for by the Endangered Species Act of 1973 (16 USC 1531 et seq.) and is not a violation of this Act. Except as specifically authorized, no other take of a federally listed species is allowed; the applicant remains subject to the prohibitions found at Section 1817.97(d) of taking a federally listed species protected under the Endangered Species Act. Unauthorized take is a violation of Section 1817.97(d); in addition, failure of the applicant to implement the measures specified in the approved plan as part of this permit will subject the applicant to enforcement measures under Sections 1773.17(b), 1817.97(a), and in the case of a take in violation of the Endangered Species Act, Section 1817.97(d).

After having considered the status of the Indiana bat and northern long-eared bat, site specific resource information, direct and indirect effects, and cumulative effects, and in the context of the applicant's commitments for measures to minimize and mitigate disturbances and adverse impacts to the Indiana bat and northern long-eared bat and conditions imposed by the Department, the Department finds that the operation will not affect the continued existence of endangered or threatened species or result in destruction or adverse modification of their critical habitats, as determined under the Endangered Species Act of 1973 (16 USC 1531 et seq.).

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